FINAL
ENVIRONMENTAL IMPACT REPORT/ ENVIRONMENTAL IMPACT STATEMENT

for the

UPPER GUADALUPE RIVER FLOOD CONTROL PROJECT

VOLUME V
RESPONSES TO COMMENTS

Prepared by

SANTA CLARA VALLEY WATER DISTRICT
U.S. ARMY CORPS OF ENGINEERS

November 1999

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MASTER RESPONSES

SECTION 14.3

MASTER RESPONSES

INTRODUCTION

Review of the comments made on the Draft EIR/EIS showed that some comments were made frequently, demonstrating a common concern that was widespread among both those submitting written comments and those speaking at the public hearing. In some cases the array of similar comments about a particular topic provided a clearer picture of a particular suggested alternative, technical concern, or procedural issues than was provided by any single comment. To allow presentation of a response that addresses all aspects of these related comments, Master Responses have been prepared for those topics that were raised in a number of comments from agencies and members of the public. These Master Responses are intended to allow a well-integrated response addressing all facets of a particular issue, in lieu of piece-meal responses to each individual comment, which may not have portrayed the full complexity of the issue. The use of a Master Response is in no way intended to minimize the importance of the individual comments. In fact, Master Responses were used as a way to highlight some of those issues that appeared to be of particular importance to those making comments.

The Master Responses indicate where changes to the text of the Draft EIR/EIS have been made, with changes shown in revision mode. New text is underlined and deleted text is shown in ~~strikeover~~. Page references for text changes reflect the location of the change in the original Draft EIR/EIS text (Volume I) and do not accurately reflect the location of the text in Volume VI, Revised EIR/EIS Text, where pagination has changed.

MASTER RESPONSE A
EVALUATION OF STREAM RESTORATION ALTERNATIVE

A number of comments expressed preference for the Stream Restoration Alternative, and stated that this option should be selected in place of the Preferred Project.

Unfortunately there was confusion between the terminologies used in the Draft EIR/EIS and in the Engineer's Report. Both the Draft EIR/EIS and the Engineer's Report addressed a stream restoration alternative that included construction of a bankfull channel in all reaches and single or double earth bypasses in most reaches to accommodate floodflows. This alternative was called the Stream Restoration Alternative; for clarification below, this will now be called the Stream Restoration Alternative (Bypass Approach). In addition, the Engineer's Report also included a brief description of an alternative with a fluvial geomorphological approach to stream restoration that would attempt to restore the natural sinuosity of the Guadalupe River utilizing a bankfull channel and terraced floodplain; an alternative considered not to be feasible in the Engineer's Report.

To fully respond to comments received on the Draft EIR/EIS regarding the stream restoration alternative, a more complete evaluation of the fluvial geomorphological option has been conducted. This alternative is called the Fluvial Geomorphological Alternative. The National Marine Fisheries Service (NMFS) has reviewed the analysis and concluded that the Fluvial Geomorphological Alternative would affect fisheries much more than the Preferred Project (see 21 July 1998 letter at the end of this response).

The following change is made to the Draft EIR/EIS:

Starting on page 3-10. The text is revised as follows, starting after the second paragraph:

> **Fluvial Geomorphological Alternative**
>
> The goal of the Fluvial Geomorphological Alternative (fluvial geomorphological approach) is to restore the natural sinuosity of the Guadalupe River channel; enhance sediment transport; and provide for long-term stabilization of the banks by restoring the plan, profile, and geometry of the active channel and incorporating strategically placed rock weirs, root wads, and other appropriate bio-remediation elements including revegetation. After construction, this alternative would provide an opportunity for new riparian vegetation to re-establish and create a functional physical and biological river system that allows natural processes to occur while restoring and maintaining habitat values for fish and wildlife. The Fluvial Geomorphological Alternative (fluvial geomorphological approach) would include construction of a meandering multi-stage channel in Reaches 6-12 consisting of: a thalweg or low-flow channel; a bankfull channel, which contains the sediment carrying or channel forming flow that has a 1.5-year runoff return period; and a terraced floodplain that carries the high flows.
>
> To further determine the potential feasibility of the Fluvial Geomorphological Alternative, a fluvial geomorphological channel was designed for Reaches 6, 7, and 8

(Figure 3.1). Construction costs, maintenance costs, and environmental impacts were analyzed and compared to the Preferred Project and the MVI Alternative. Reaches 6-8 were selected because 1) minimal additional right-of-way would have to be acquired compared to the Preferred Project, and 2) analysis of the implementation of the Fluvial Geomorphological Alternative in these reaches would allow for a potential worst-case analysis of the thermal and fisheries impacts. With this analysis it will be possible to see whether the environmental impacts of the Fluvial Geomorphological Alternative in Reaches 6-8 would rule out this alternative as a feasible alternative.

The design of the Fluvial Geomorphological Alternative (Reaches 6-8) was based on a Rosgen "C" type channel with minimal width parameters. The restoration channel would require an estimated meander belt width of 240 feet. The channel would be 180 feet wide and 20 feet deep and include a bankfull channel and a low-flow channel (see Appendix F-B). The east and west banks of the existing channel would be widened at 5 feet above the channel invert to create a terraced floodplain and revegetation bench about 35 feet wide on each bank. The upper east and west banks would be revegetated with native riparian vegetation at a 2:1 side slope. The meandering channel was located to minimize impacts to existing vegetation where possible.

The restoration channel is expected to require minimal maintenance. Maintenance of the revegetation bench, the bankfull channel, and channel banks would not be required except for blockages, fire hazards, and structural integrity. Only woody vegetation, that grows within the bankfull channel would be removed periodically to maintain capacity, sediment transport, and fish passage.

The Fluvial Geomorphological Alternative (Reaches 6-8) would require removal of McLellan Avenue and relocation of Lelong Avenue. Bridges at Virginia Street, Willow Street, Alma Avenue, and Willow Glen Way would be replaced. New culverts would be constructed under the SPRR and UPRR.

Construction Costs

The Fluvial Geomorphological Alternative (Reaches 6-8) would require acquisition of 83 private properties, 13 commercial businesses, and the Elk's Lodge property. The Preferred Project and the MVI Alternative would require acquisition of 77 private properties, relocation of 13 commercial businesses, and reconfiguration of the Elk's Lodge parking lot. As shown in Table 3.1a, the estimated present worth cost for the Fluvial Geomorphological Alternative (Reaches 6-8) is $60.2 million (1997 dollars), compared to $50.3 million (1997 dollars) for the Preferred Project and the MVI Alternative (see Table 3.1); a difference of $10 million (1997 dollars). Both the Preferred Project and the MVI Alternative are similar for Reaches 6-8.

Maintenance Costs

Expected annual maintenance of the Preferred Project and the MVI Alternative in Reaches 6-8 is described in Appendix C. In general, native vegetation would be removed or restricted in height in a 25-foot wide corridor centered on the existing low-flow channel in Reaches 6-8 to maintain flood capacity. Vegetation in the channel bottom that is outside the corridors would be trimmed periodically in accordance with the maintenance guidelines (see Appendix C). Native vegetation on the banks would not be removed under this maintenance program.

The Preferred Project and the MVI Alternative in Reaches 6-8 are expected to result in an annual maintenance of $19,390 over a 100-year project life span; which results in a present worth total cost of about $243,000 (1997 dollars). The Fluvial Geomorphological Alternative (Reaches 6-8) is expected to result in an annual maintenance of $1,900 over a 100-year project life span; which results in a present worth total cost of about $24,000 (1997 dollars). The Fluvial Geomorphological Alternative (Reaches 6-8), therefore, reduces maintenance costs by $219,000 (1997 dollars). Table 3.1b shows a summary of annual maintenance cost estimates for alternative plans.

Habitat Impacts

Direct impacts of construction of the Preferred Project, the MVI Alternative, and the Fluvial Geomorphological Alternative on riparian forest, SRA habitat, and wetlands (including other waters of the U.S.) in Reaches 6-8 are compared in Table 3.1c. The Preferred Project and the MVI Alternative have similar impacts on riparian forest, SRA habitat, and wetlands. Construction of the Fluvial Geomorphological Alternative (Reaches 6-8) would result in more impacts on riparian forest, SRA habitat, and other waters of the U.S.

Thermal and Fisheries Impacts

Water temperatures in the Guadalupe River are critical to the survival and perpetuation of chinook salmon (*Oncorhynchus tshawytscha*) and steelhead (*O. mykiss*). Because construction of the Fluvial Geomorphological Alternative could produce short-term changes in channel geometry and remove riparian vegetation, thereby affecting thermal conditions for anadromous fish in the river, an analysis of potential thermal effects of the Fluvial Geomorphological Alternative was conducted (see Appendix F-B). The thermal analysis in Appendix F-B includes an analysis of the effects of the Fluvial Geomorphological Alternative on Reaches 6-8 (thermal segments 26, 27, and 28) as well as an analysis of the effects of the Fluvial Geomorphological Alternative on the segments of the Guadalupe River downstream of Reaches 6-8 to Trimble Road. For purposes of this discussion, results of the thermal analysis focus on Reaches 6-8.

Water temperature was simulated with the JSATEMP model (see Appendix F-B). Simulated post-project (i.e., immediately after construction) water temperature was evaluated against published thermal criteria for chinook salmon and steelhead (see Table 4.14-1a) and compared to simulated pre-project (i.e., existing conditions) water temperature effects in the Guadalupe River. Water temperature needs vary by life stage and thermal impacts are evaluated for adults, eggs, juveniles, and smolts.

Methods

Existing Conditions. The JSATEMP model simulated the existing conditions in Reach 6-8 (thermal segments 26, 27, and 29). This is represented by the results of the Pre-project simulation in Figure 3.1a. The simulations were performed for a dry/median year and a wet year to account for the range of meteorological and hydrological conditions that occur on the Guadalupe River.

Fluvial Geomorphological Alternative. Construction of the Fluvial Geomorphological Alternative (Reaches 6-8) could produce substantial short-term changes in channel geometry and loss of riparian vegetation in Reaches 6-8 and thereby affect the thermal conditions for fish habitat in the river. To evaluate potential thermal changes associated with the Fluvial Geomorphological Alternative (Reaches 6-8), temperature simulations assumed that the Fluvial Geomorphological Alternative was constructed in Reaches 6-8 and Reaches 9-12 were unmodified. The JSATEMP model was set up with several modifications to represent the vegetation loss and channel geometry changes that would occur as a result of the design and construction of the Fluvial Geomorphological Alternative. Immediately after project construction the channel will have the shape presented in Figure F-B.2 in Appendix F-B (e.g., the low flow channel will be a 6 foot wide, 1.5 foot deep trench and the bottom of the bankfull channel will be 40 feet wide). However, because the channel will remain earthen, the channel will likely soon reform into a more natural shape similar to the pre-project shape (e.g., pools, runs, and riffles will form in the low flow channel and the 40 foot bankfull channel will no longer be flat). Consequently, post-project two variations of the Fluvial Geomorphological Alternative were analyzed; one variation was run with channel geometry equations the same as for the existing pre-project conditions (existing geometry run = FGA-Existing Geometry) and the other variation was run with channel geometry equations that were estimated using the provided constructed channel shape design (design geometry run = FGA-Design Geometry). The design channel geometry equations are shown in Appendix F-B.

The post-project variable channel geometry for the two scenarios represents least (i.e., FGA-Existing Geometry) to greatest (FGA-Design Geometry) thermal effects. Figure 3.1a presents the simulated monthly average maximum water temperature (i.e., average of daily maximums) for existing and both post-project scenarios in Reaches 6-8 of the Upper Guadalupe River Flood Control Project. The following analysis focuses on the thermal effects of the Fluvial Geomorphological Alternative on pre-spawning adult and egg life stages of chinook salmon, and smolt and juvenile life stages of steelhead because these life stages are most likely to be affected by changes in the thermal regime.

Chinook Salmon and Steelhead Life History

Below is a summary of life history for chinook salmon and steelhead. More detailed information is contained in Chapter 4.14, "Fisheries."

Chinook Salmon. Adult chinook salmon may enter the lower Guadalupe River as early as June and continue entering the river through late-December or early January. However, most adult salmon enter the river during October and November. Spawning begins in the fall, as water temperature cools, and may continue into early January. Eggs incubate in the gravel for 1-2 months before fry emerge and either move down to the estuary or remain in the river for several months until they smolt in the spring.

Steelhead. The life cycle of steelhead is similar to chinook salmon, although life stage timing is different. Adult steelhead typically return from the ocean in the winter, during approximately December through March. Adults spawn shortly after arriving. Eggs incubate in the gravel for 4-6 weeks and warmer water temperature results in earlier emergence. One important distinction between juvenile steelhead and chinook salmon is that steelhead rear in freshwater for 1-3 years before smolting. Consequently, juvenile rearing steelhead require adequate water temperature conditions year-round. Smolting occurs primarily in the spring (i.e., March to June) and smoltification occurs earlier when water temperature is warmer.

Results of Thermal and Fisheries Analysis

Chinook Salmon - Pre-Spawning Adults. Under all operations scenarios, including existing conditions, average maximum water temperature exceeds the optimal temperature for pre-spawning adults of 53.6°F during most months (Figure 3.1a). Under Pre-project conditions, average maximum water temperature is below the thermal maximum of 75°F except during July of the wet year.

Under post-project conditions, average maximum water temperature would increase substantially during the summer and fall (Figure 3.1a). Relative to existing conditions, the thermal maximum for pre-spawning adults would be exceeded from about June through September for the FGA-Existing Geometry scenario and June through October for the FGA-Design Geometry scenario, with exceedences for some months dependent on year type. Under both post-project scenarios, pre-spawning adults may not find suitable conditions until fall.

Chinook Salmon - Egg Incubation. Under existing conditions, water temperature is typically too warm for egg incubation until November (Figure 3.1a and Table 4.14-1a). Exposure to high water temperature causes egg mortality and abnormal development. Water temperature from December through February, the remainder of the incubation period, is generally below the upper thermal limit (i.e., 60.8°F) and likely supports successful incubation.

Under FGA-Existing Geometry post-project conditions, water temperature during the egg incubation is similar to existing conditions (i.e., Pre-project) except that the incubation period may be reduced by 1 month during wet years. Under worst-case post-project conditions (i.e., FGA-Design Geometry), the window for suitable egg incubation may be reduced by 2 months for wet years. The results assume that average maximum water temperature reflect impacts to egg incubation.

Steelhead - Juvenile Rearing. Under existing conditions, optimal conditions for juvenile rearing (64.4°F) are substantially exceeded during summer (Figure 3.1a). However, simulated temperatures do not exceed the absolute thermal limit (i.e., 77°F) under pre-project conditions.

Under post-project conditions, average maximum water temperature would increase and the absolute thermal maximum for rearing juveniles is expected to be exceeded during summer more frequently than under existing conditions (Figure 3.1a). The availability of habitat would be reduced for rearing juveniles because of increased water temperature in the affected reaches.

Steelhead - Smoltification. Under existing conditions, simulated average maximum water temperature exceeds the thermal limit for optimal conditions (59.9°F) during March or April (Figure 3.1a). By May or June, the absolute thermal limit for smolts (66.2°F) is exceeded.

Under post-project conditions, average maximum water temperatures would increase, potentially reducing suitable conditions for smoltification by 0 to 2 months, depending on year type.

Summary

Under existing conditions, any pre-spawning chinook salmon entering the project area are finding marginal conditions during summer. During higher flow years, summer conditions are unsuitable for pre-spawning adults. The predicted increase in water temperature for the Fluvial Geomorphological Alternative would worsen conditions for chinook salmon. However, this may not have a significant effect on overall chinook salmon production in the river because only a fraction of the total chinook salmon spawning run is present in this reach of the Guadalupe River during summer and those fish present experience stress under existing conditions.

Existing fall water temperatures are too warm for egg incubation until November. By November, the combined effects of change in channel geometry and the loss of shade on water temperatures under the Fluvial Geomorphological Alternative are reduced because air temperatures and storm events rather than solar radiation are the primary factors determining variations in water temperatures. Implementation of the Fluvial Geomorphological Alternative may cause adequate spawning conditions to shift to later in the year.

Temperature increases in spring due to the Fluvial Geomorphological Alternative may reduce the window for juvenile steelhead to complete their smoltification process. The rate of smoltification, however, is temperature dependent and juveniles may simply smolt earlier or move downstream in response to the changing conditions.

The greatest increase in water temperatures under the Fluvial Geomorphological Alternative would occur in the summer. Existing conditions in the affected reaches are marginal at best for juvenile steelhead rearing. The Fluvial Geomorphological

Alternative would cause water temperatures to exceed the thermal maximum limit for juveniles.

Conclusion

The Fluvial Geomorphological Alternative (Reaches 6-8) would cost almost $10 million (1997 dollars) more to construct than the Preferred Project; save a present-worth total of approximately $219,000 (1997 dollars) in long-term maintenance costs (100-year project life); and result in substantially more short-term impacts to riparian forest, SRA habitat, and waters of the U.S. The Fluvial Geomorphological Alternative (Reaches 6-8) would also cause average maximum water temperatures to exceed thermal maximum limits for juvenile steelhead rearing.

The design and analysis of the Fluvial Geomorphological Alternative in Reaches 6-8 helped to estimate the impacts of implementing the Fluvial Geomorphological Alternative for Reaches 6-12. It is estimated that approximately 50-65 percent of the existing riparian vegetation (18-24 acres), 85-90 percent of existing SRA habitat (15,250-16,150 linear feet), and 100 percent of the existing jurisdictional wetlands (4.6 acres) would be lost due to construction of the Fluvial Geomorphological Alternative in Reaches 6-12. These losses would likely be mitigated on-site, but the short-term impacts would be substantial. In the long-term, the Fluvial Geomorphological Alternative would include a sediment carrying bankfull channel and would be expected to provide for long-term stabilization of the banks of the active channel.

This alternative has been eliminated from further consideration because: (1) the cost of construction is high, (2) savings in maintenance costs is minimal, (3) substantial impacts to habitats in Reaches 6-12, especially jurisdictional wetlands, would occur, and (4) the NMFS has indicated that this alternative would affect fisheries much more than the Preferred Project (see Appendix Y). This alternative would not comply with the requirements of the Clean Water Act Section 404(b)(1) guidelines for implementation of the less environmentally damaging practicable alternative when a fill or discharge into waters of the United States is proposed.

Stream Restoration Alternative (Bypass Approach)

This alternative is a ~~variation~~ combination of channel modification components~~the Channel Modification Alternative~~ which would most reestablish the functions and values of the historic riparian corridor by expanding the riparian plantings and creating buffer areas. Bypass channels and/or floodplain terraces would be constructed to carry higher flows. One variation of this alternative would include a low-flow channel to be constructed in Reaches A and 6-12 to carry the 1.5-year frequency flow ("bankfull" flow).~~ and is described and compared to the Minimize Vegetation Impacts Alternative (see Section 3.4). The Stream Restoration Alternative, a fluvial geomorphological approach, consists of channel modifications in Reach A and Reaches 6-12 to create a low flow channel and an active floodplain terrace. A low flow channel would be constructed in each reach to carry the 1.5-year~~

~~frequency flow ("bankfull" flow); bypass channels and/or floodplain terraces would carry higher flows. This alternative incorporates, to the extent feasible, stream restoration techniques throughout the project area.~~

~~The goal of the fluvial geomorphological approach is to restore the natural sinuosity of the Guadalupe River channel; enhance sediment transport; and provide for long-term stabilization of the banks by restoring the plan, profile, and geometry of the active channel and incorporating strategically placed rock weirs, root wads, and other appropriate bio-remediation elements including revegetation. This alternative would provide an opportunity for significant new riparian vegetation to re-establish and strives to create a functional physical and biological river system that allows natural processes to occur while restoring and maintaining habitat values for fish and wildlife.~~

The Stream Restoration Alternative is similar to the Minimize Vegetation Impacts Alternative (see Section 3.4), with the main difference being the need for double bypass~~es~~ channels in Reaches 7 and 8 and ~~E~~ extensive in-channel modifications to accommodate a constructed bankfull channel ~~would also be required under the stream restoration alternative~~ in each reach.

In each reach, the existing Guadalupe River channel would be modified to incorporate a new bankfull channel with a sinuosity that matches the slope, flow, and geomorphological characteristics of the Guadalupe River. Some existing streamside vegetation would be affected during construction. Both sides of the new bankfull channel would be revegetated and/or stabilized. Bypass channels or open floodplain terraces would be constructed to accommodate floodflows. Specific features of the Stream Restoration Alternative are described below.

~~Estimates of habitat affected by the Stream Restoration Alternative are based on assumptions that approximately 90 percent of the existing wetlands in Reach A and Reaches 6-12 (approximately 8.0 acres of wetlands) would be affected due to the extensive work in-channel. In addition, approximately 20 percent more of the riparian habitat and shaded riverine aquatic (SRA) cover in most reaches would be affected than with the Minimize Vegetation Impacts Alternative due to the construction of a bankfull channel. Impacts in Reaches 7 and 8 would be greater (approximately 40 percent more) under the stream restoration alternative than the Minimize Vegetation Impacts Alternative due to the construction of an additional bypass channel. In total, over 6.0 acres of riparian habitat and over 2,500 linear feet of SRA cover would be affected.~~

Reach A. A bankfull channel would be excavated to enhance sediment transport.

Reaches 6-8. A bankfull channel would be excavated within the existing Guadalupe River bottom. In Reach 6, an earth-lined east bank bypass channel would be constructed. In Reaches 7 and 8, east and west bank earth-lined bypass channels would be constructed. The double bypass channels are required in Reaches 7 and 8 to accommodate the one percent flood with earth side slopes.~~because the side slopes~~

~~of the earth-lined bypass channels are significantly less than the gabion side slopes of the Preferred Project and Minimize Vegetation Impacts Alternative.~~

Reaches 9 and 10A. An earth-lined bypass channel would be constructed west of the natural channel similar to those proposed in the Minimize Vegetation Impacts Alternative. A new bankfull channel would be excavated within the existing river channel.

Reach 10B. As in the Preferred Project and Minimize Vegetation Impacts Alternative, a sinuous bankfull channel would be constructed in upper Reach 10B and banks would be revegetated. A new bankfull channel would be excavated within the existing river channel in lower Reach 10B.

Reach 10C. This reach would be similar to the Minimize Vegetation Impacts Alternative except that a bankfull channel would be constructed within the existing channel.

Reaches 11A and 11B. As in the Minimize Vegetation Impacts Alternative, Reach 11A would include an east bank earth-lined bypass channel. Reach 11B would include a west bank widened cribwall channel similar to the Preferred Project and the Minimize Vegetation Impacts Alternative. In addition, a bankfull channel would be excavated within the existing channel.

Reach 11C. An earth-lined bypass channel would be constructed on the west bank as in the Minimize Vegetation Impacts Alternative. In addition, a bankfull channel would be excavated within the existing channel.

Reach 12. This reach would be similar to the Minimize Vegetation Impacts Alternative except that a bankfull channel would be created. It ~~and~~ includes replacing the existing in-stream percolation ponds with new off-stream ponds and west bank channel widening.

Estimates of habitat affected by the Stream Restoration Alternative are based on the assumption that approximately 90 percent of the existing wetlands in Reach A and Reaches 6-12 (approximately 5.4 acres of wetlands) would be affected due to the extensive work in-channel (approximately 3.6 acres more than the Preferred Project). In addition, approximately 14 percent of the existing riparian habitat and 17 percent of the existing SRA cover in Reach A and Reaches 6-12 would be affected due to the construction of a bankfull channel. In total, approximately 6.6 acres of riparian habitat (approximately 2.8 acres less than the Preferred Project) and over 3,170 linear feet of SRA cover (approximately 1,917 lf less than the Preferred Project) would be affected.

This alternative has been eliminated from further consideration because: (1) substantially greater amounts of jurisdictional wetlands would be affected during construction than under the Preferred Project and Minimize Vegetation Impacts Alternative, (2) greater amounts of riparian vegetation and SRA would be affected during construction than under the Minimize Vegetation Impacts Alternative, ~~(3)~~

~~regulatory uncertainty exists regarding the required mitigation for construction impacts when the long term goal is stream restoration,~~ and ~~(4)~~ (3) the cost of construction would be approximately ~~$190~~$201 million. This alternative would not comply with the requirements of the Clean Water Act Section 404 (b)(1) guidelines for implementation of the less environmentally damaging practicable alternative when a fill or discharge into waters of the United States is proposed.

If the construction of a bankfull channel was eliminated from the Stream Restoration Alternative (Bypass Approach), it would essentially be identical to the MVI Alternative except for the earth lined bypass in Reach 6 and the double bypass in Reaches 7 and 8. The project would then result in approximately 0.12 acres more impact to wetlands than the Preferred Project, approximately 3.86 acres less impacts tp riparian habitat than the Preferred Project, and approximately 2,196 lf less impacts than the Preferred Project. This alternative has been eliminated from further consideration because: (1) greater amounts of jurisdictional wetlands would be affected during construction than under the Preferred Project and Minimize Vegetation Impacts Alternative, (2) greater amounts of riparian vegetation and SRA would be affected during construction than under the Minimize Vegetation Impacts Alternative, (3) the cost of construction would be approximately $183.0 million, and (4) major socioeconomic impacts would occur due to relocation of 300 properties.

TABLE 3.1a

UPPER GUADALUPE RIVER FLOOD CONTROL PROJECT CONSTRUCTION COST COMPARISON OF THE PREFERRED PROJECT, MVI ALTERNATIVE, AND THE FLUVIAL GEOMORPHOLOGICAL ALTERNATIVE FOR REACHES 6-8

	Preferred Project and MVI Alternative	Fluvial Geomorphological Alternative
Property Acquisition	77 properties	83 properties
R/W Costs	$24.6 Million	$30.2 Million
Construction Costs	$25.2 Million	$28.1 Million
Mitigation Costs (2:1 ratio)	$0.5 Million	$1.9 Million
	$50.3 Million	$60.2 Million

TABLE 3.1b

SUMMARY ANNUAL MAINTENANCE COST ESTIMATES FOR ALTERNATIVE PLANS

Reach	Preferred Project	Minimize Vegetation Impacts Alternative	Fluvial Geomorphological Alternative
Reach 6: I-280 to SPRR			
Vegetation removal	$4,410	$4,410	$340
Sediment removal	$2,660	$2,660	$260
Reach 7: SPRR to UPRR			
Vegetation removal	$6,650	$6,650	$540
Sediment removal	$2,000	$2,000	$410
Reach 8: UPRR to Willow Glen Way			
Vegetation removal	$2,180	$2,180	$200
Sediment removal	$1,490	$1,490	$150
Reach 9: Willow Glen Way to Curtner Avenue			
Vegetation removal	$6,870	$4,030	$650
Sediment removal	$980	$2,020	$490
Reach 10: Curtner Avenue to Capitol Expressway			
Vegetation removal	$5,140	$3,180	$900
Sediment removal	$1,540	$1,760	$690
Reach 11: Capitol Expressway to Branham Lane			
Vegetation removal	$6,460	$3,860	$670
Sediment removal	$1,020	$1,880	$510
Reach 12: Branham Lane to Blossom Hill Road			
Vegetation removal	$7,790	$4,200	$740
Sediment removal	$1,720	$1,130	$570
Vegetation Removal subtotal	$39,500	$28,510	$4,040
Sediment Removal Subtotal	$11,410	$12,940	$3,080
Total	$50,910	$41,450	$7,120

TABLE 3.1c

HABITAT IMPACTS OF THE PREFERRED PROJECT, MVI ALTERNATIVE AND FLUVIAL GEOMORPHOLOGICAL ALTERNATIVE (REACHES 6-8)

	Existing Conditions	Preferred Alternative	MVI Alternative	Fluvial Geomorphological Alternative
		Riparian Impacts (acres)		
Reach 6	2.87	0.20	0.20	2.04
Reach 7	4.24	0.53	0.53	3.99
Reach 8	1.64	0.24	0.39	1.64
Total	8.75	0.97	1.12	7.67
		SRA Impacts (linear feet)		
Reach 6	2,536	138	138	2,536
Reach 7	4,288	562	562	4,288
Reach 8	1,484	154	394	1,484
Total	8,308	854	1,094	8,308
		Wetland/Other Waters Impacts (acres)		
Reach 6	0.2/2.08	0.0/0.17	0.0/0.17	0.2/2.08
Reach 7	0.03/3.88	0.0/1.82	0.0/1.82	0.03/3.88
Reach 8	0.02/1.06	0.0/0.25	0.0/0.25	0.02/1.06
Total	0.25/7.02	0.0/2.24	0.0/2.24	0.25/7.02

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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Santa Rosa, Ca 95404-6528
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July 21, 1998 F/SWR4:IG

Lieutenant Colonel Peter T. Grass
U.S. Army Corp of Engineers
San Francisco District
333 Market Street
San Francisco, Ca 94105-2197

Dear Colonel Grass:

At your request, I am responding to the Stream Restoration alternative developed for the Upper Guadalupe River flood control project, Santa Clara Valley Water District, Santa Clara County. It is one of three alternatives being considered, and one that could require a more formal consultation process with us.

In January last year the Santa Clara Valley Water District (District) released a draft Environmental Impact Statement for the flood control project. It states that the Stream Restoration alternative was reviewed, but not included in the alternatives analysis because of a compliance issues, namely mitigation. We joined the Environmental Protection Agency requesting the District to describe the Stream Restoration alternative in more detail. This would assist us in determining project impacts to the threatened central California coast steelhead and the proposed-as-threatened southern Oregon and California fall-run chinook salmon. The District provided this information for river-reaches six through eight. Using the fluvial geomorphology methodology, the analysis demonstrates that little existing vegetation would remain after the project is built and the thermal impacts to the river would be significant.

The consulting firm Jones and Stokes Associates (1998) analyzed the thermal impacts of the same alternative and determined that: 1) implementing it would create water conditions that exceed the thermal maximum for juvenile steelhead during the summer months; 2) the natural smolting process for steelhead may be shortened or interrupted because of elevated spring temperatures; 3) the egg incubation period could shift to later in the year; and 4) existing marginal conditions for pre-spawning chinook salmon be further degraded.

Regarding project costs, the District indicates that the project would be significantly higher than either the Preferred alternative or the Minimized Vegetation alternative. The cost estimates for each are: Stream Restoration - $200 million; Preferred - $114 million; and Minimized Vegetation - $160 million, (per Dennis Cheong of the District).

We conclude that the proposed Stream Restoration alternative would affect fisheries much more than the Preferred alternative. Currently, we are providing technical guidance during our informal consultation on the Preferred project alternative. Should the Stream Restoration alternative be selected, formal consultation would be required under the Endangered Species Act.

We appreciate the extra effort the District made in making this analysis available. If you have any questions concerning these comments, please contact Mr. Ian Gilroy of my staff at (707) 575-6053 or by e-mail at Ian.Gilroy@noaa.gov.

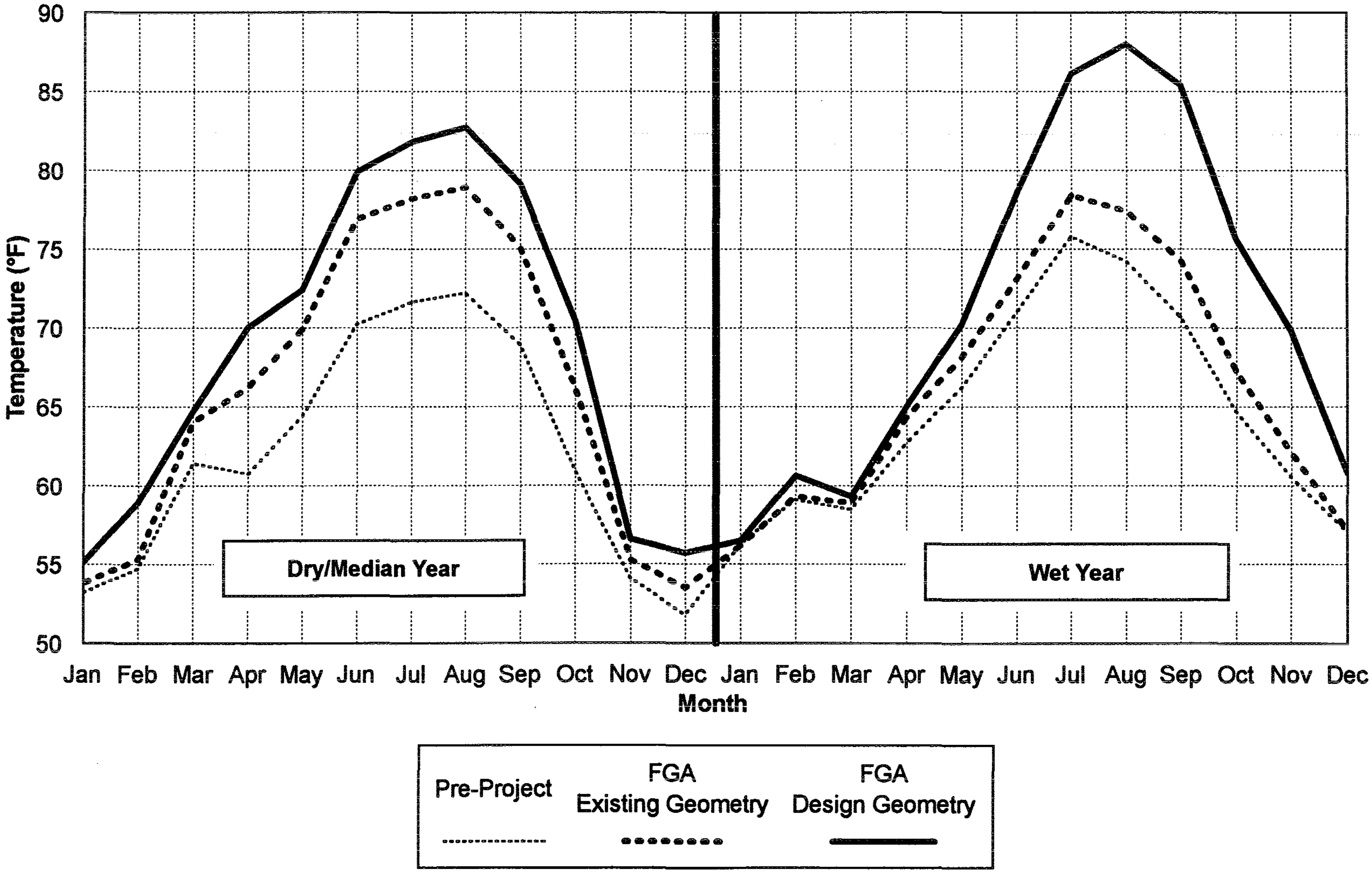
Sincerely

James Bybee

James R. Bybee
Habitat Conservation Manager
Northern California

Editor's Note: This letter is based on NMFS's review of data presented on the Fluvial Geomorphological Alternative, not the Stream Restoration Alternative as stated in the letter. The difference between the Fluvial Geomorphological Alternative and the Stream Restoration Alternative is discussed in Master Response A.

Figure 3.1a Annual Pattern of Average Maximum Temperatures in Reaches 6-8 for the Dry/Median and Wet Years Immediately after Construction of the Fluvial Geomorphological Alternative (FGA)



MASTER RESPONSE B
EVALUATION OF MINIMIZE VEGETATION IMPACTS ALTERNATIVE

A number of comments expressed preference for the Minimize Vegetation Impacts (MVI) Alternative, and stated that this option should be selected in place of the Preferred Project.

Table 1.1 from the Draft EIR/EIS, which is reproduced here for ease of reference, provides a summary comparison of the Preferred Project and MVI alternative. The differences between the two alternatives and reasons for selecting the preferred option in each reach are discussed below.

TABLE 1.1

UPPER GUADALUPE RIVER
SUMMARY OF PROPOSED FLOOD CONTROL FACILITIES

		Main Flood Control Facility Proposed	
Reach	Limits	Preferred Project	Minimize Vegetation Impacts Alternative
A	Bayshore to I-880	Levees, floodwalls, and maintenance roads	Same as the Preferred Project
6	I-280 to SPRR	Gabion bypass channel	Same as the Preferred Project
7	SPRR to UPRR	Gabion bypass channel, bank protection	Same as the Preferred Project
8	UPRR to Willow Glen Way	Gabion bypass channel, bank protection	Same as the Preferred Project
9	Willow Glen Way to Curtner Avenue	Selective widening and cribwall lining, bank protection and short bypasses	Earth bypass channel west of the natural channel
10A	Curtner Avenue to Southbound Almaden Expressway	Widened cribwall channel	Earth bypass channel west of the natural channel
10B	Southbound Almaden Expressway to Gaging Station 23B	Levee, floodwall, and low-flow channel	Same as the Preferred Project
10C	Gaging Station 23B to Capitol Expressway	Widened gabion channel and low-flow channel	Earth bypass channel east of the natural channel and channel widening
11A	Capitol Expressway to Bryan Avenue	The downstream section would be a 700-foot open bypass channel. Upstream the east bank would be widened and protected by cribwalls	Earth bypass channel east of the nature channel
11B	Bryan Avenue to Ross Creek	West bank widening with gabions and cribwalls	Same as the Preferred Project
11C	Ross Creek to Branham Lane	West bank widening with cribwalls	Same as the Preferred Project
12	Branham Lane to Blossom Hill Road	Levee and revegetation area	Earth bypass channel west of the natural channel and channel widening
13	Blossom Hill Road to about 1,500 feet upstream	Construct a stepped pool fish passage over 15-foot structure	Same as the Preferred Project
Canoas Creek	Guadalupe River to end of Nightingale Drive	3-foot to 4-foot high floodwalls	1.5-foot high earth bypass channel and floodwall
Ross Creek	Guadalupe River to Jarvis Avenue	Widened channel with articulated mat lining and culverts	Same as the Preferred Project
Guadalupe River	(Reaches 10 and 11)	permanent modifications to potential fish barriers	Same as the Preferred Project
Alamitos Creek Guadalupe Creek		Fish barrier modifications as mitigation for project impacts	Same as the Preferred Project

The Preferred Project was selected with consideration for community acceptance, costs and impacts to environment, homes, and businesses.

In Reaches 6, 7 and 8 (I-280 to Willow Glen Way), the Preferred Project is the gabion bypass channel and is the same as the MVI Alternative. Implementing the MVI alternative in other reaches is infeasible because of the major increase in socio-economic impacts and cost of right-of-way stated in the EIR/EIS. The proposed project is a compromise developed to optimize tradeoffs between the cost and impact of additional right-of-way to construct the MVI alternative and costs of mitigation for the Preferred Project. This alternative would avoid impacts to the natural stream channel and would restore and maintain the existing aquatic ecosystem by providing a buffer between the natural channel and adjacent development. Habitat value of the natural channel is expected to increase over time due to less intensive maintenance.

The widened gabion channel alternative was not selected because it had greater impacts to the aquatic ecosystem. All east bank vegetation within the excavated bench site would be lost. Revegetation would be provided on portions of the bench and top of bank.

The covered bypass channel is also the minimized vegetation impacts alternative. However it was not selected because it has a high cost of $9.0 million.

In Reach 9 (Willow Glen Way to Curtner Avenue), the Preferred Project is the widened cribwall channel with mitigation bench. This alternative would avoid impact to the riparian habitat on the west bank and on the lower portion of the east bank. Two short bypass channels would be created to minimize impacts to the existing natural stream channel. To reduce impacts over time, revegetation would be provided on the depressed bench and top of bank and less intensive maintenance would need to be performed in the channel.

A covered bypass channel was considered, but was not selected as part of either the Preferred Project or MVI Alternative because of the socio-economic impacts and high construction cost of $53 million. Construction of a box culvert along Almaden Road would create major traffic disruption. Several San Jose Water Company wells and facilities, and a major sewer line under Almaden Road would be relocated. This alternative is considered infeasible and impracticable.

The earth bypass channel on the west bank alternative is most suitable for inclusion in the MVI Alternative because it avoids most impacts and expands the functions and values of the historic natural riparian corridor. It would also provide a buffer between the natural channel and adjacent development. Habitat values of the natural channel are expected to increase over time due to less intensive maintenance. With this alternative, many of the policies of the City's Riparian Corridor Policy would be implemented. However, it was not selected as part of the Preferred Project because it has major socio-economic impacts and a high cost of $26 million. It would also require purchasing 73 properties. This alternative is considered impracticable.

In Reach 10A (Curtner Avenue to Southbound Almaden Expressway), the Preferred Project is the widened cribwall channel with mitigation bench. This alternative would avoid impacts to the riparian habitat on the west bank and on the lower portion of the east bank. To reduce impacts over time revegetation would be provided on the depressed bench and top of bank and less intensive maintenance would be performed in the channel. This alternative would also require construction of 3.5-foot high floodwalls on Canoas Creek from Almaden Expressway to end of Nightingale Drive.

A covered bypass channel was also considered for this reach, but was not selected because it has socio-economic impacts and a high construction cost. The problems associated with construction of a box culvert along Almaden Road are the same as for Reach 9. This alternative is considered impracticable.

The earth bypass channel on the west bank alternative is most suitable for inclusion in the MVI Alternative because it avoids impacts and provides the benefits discussed above under Reach 9. However, it was not selected as part of the Preferred Project because the impacts were not much less than the Preferred Project alternative and has a high cost of $6.4 million. It would also require purchasing 17 properties. Construction of 1.5-foot high floodwalls would be required on Canoas Creek. This alternative is considered impracticable.

In Reach 10B, the Preferred Project and Minimize Vegetation Impacts Alternative both include a levee, floodwall, and low-flow channel.

In Reach 10C (Southbound Almaden Expressway to Capitol Expressway), the Preferred Project is the widened gabion channel with mitigation bench. This alternative would avoid impacts to the riparian habitat on the west bank and on the lower portion of the east bank. To mitigate impacts, revegetation would be provided on the depressed bench and top of bank and less intensive maintenance would be performed in the channel.

The earth bypass channel on the east bank alternative is most suitable for inclusion in the MVI Alternative for the reasons discussed above for Reaches 9 and 10A) It was not selected because the impacts were only slightly less than the Preferred Project and it has a high cost of $18 million. This alternative is considered impracticable.

In Reach 11 (Capitol Expressway to Branham Lane), the Preferred Project is the east bank widened gabion channel with bench from Capitol Expressway to Bryan Avenue. This alternative would avoid impacts to the riparian habitat on the west bank. From Bryan Avenue to Branham Lane, only the west bank would be widened, creating a depressed bench for floodway. To mitigate impacts, revegetation would be provided on the depressed bench and top of bank from Bryan Avenue to Ross Creek confluence; and less intensive maintenance would be performed in the channel.

The earth bypass channel included as part of the MVI Alternative was not selected because it has major socio-economic impacts and a high cost of $22 million. It would also require purchasing 36 properties. This alternative is considered impracticable.

In Reach 12 (Branham Lane to Blossom Hill Road), the Preferred Project is levee raising. This alternative would avoid impact to the riparian habitat in the natural channel between Branham Lane and future Chynoweth Avenue. To create a revegetation bench from future

Chynoweth Avenue to Blossom Hill Road, the west bank levee would be widened to the west. The levee would be reconstructed and raised.

The bypass channel, off-stream ponds, and levee raising included in the MVI Alternative was not selected because it has major water supply recharge program impacts and a high cost of $32 million. This alternative is considered impracticable.

MASTER RESPONSE C
MAINTENANCE AND HERBICIDE USE

A number of comments asked for more information on maintenance practices, with specific reference to herbicide use and sediment removal. Comments asked for details regarding herbicides used by the District, and often expressed the concern that herbicide use would increase with the project.

Appendix C of the EIR/EIS has been updated to provide additional information on maintenance. Revised Table 3.21 from Appendix C is attached to the end of this response. Maintenance is a necessary component of the project. Design capacity must be preserved over the project life, and this requires periodic control of vegetation as it reduces flow capacity.

Amount of Herbicide Use

Maintenance procedures are described on page 3-45 of the Draft EIR/EIS, where it is stated that "changes under the Preferred Project include ... application of pre-emergent and post-emergent herbicides on newly constructed roads and ramps, maintenance for new irrigation systems and mitigation plantings, and less mechanical and chemical vegetation control." Although herbicide use is necessary for maintenance of new roads and access ramps, herbicide use for maintenance within the natural channel itself would decrease because less vegetation removal is expected to be required.

Table C.1 lists herbicides used by the District. These herbicides would be employed as needed for maintenance.

All Herbicides Are Approved for Safety

The District uses various tools as part of its vegetation control program, including hand and mechanical control as well as chemical control. The herbicides used by the District have been determined to have no more impact on wildlife than other means of vegetation control. In fact, responsible herbicides use can be less disruptive to wildlife than either hand or mechanical control because herbicides can be used less frequently and with less disturbance to wildlife behavior. Use of herbicides to control exotic species is beneficial to habitat preservation and restoration.

Applications of herbicides are timed to avoid key periods of the life cycles of wildlife (e.g., bird nesting, fish migration and spawning). The District uses a very limited group of herbicides for the vegetation control program, all of which have had extensive environmental studies done to determine their impacts. The herbicides used by the District have been documented not to be toxic to aquatic organisms when used appropriately.

All herbicides used by the District in its maintenance program are federally and state approved and have undergone extensive testing for environmental safety. All are approved for the specific uses that are implemented in the District's vegetation management program. The District uses no herbicides that are known groundwater contaminants as defined by the

California Department of Pesticide Regulation. All materials are used under California Department of Pesticide Regulation label restrictions as they apply to use in riparian, aquatic and upland areas. Herbicide use also complies with requirements of the California and U.S. Environmental Protection Agency and with the Memorandum of Understanding between the District and the Department of Fish and Game. None of the herbicide compounds used by the District has been listed by the State of California in its list of chemicals known to the State to cause cancer or reproductive toxicity. Material Safety Data Sheets for each of the herbicides listed in Table C.1 are presented at the end of this volume, and will be included in Appendix C of the EIR/EIS.

Herbicide use for maintenance of the flood control project would not have significant adverse water quality effects. Uptake by non-target species is not expected to present a problem. Extensive evidence shows that the materials used by the District are safe for humans and wildlife.

How Herbicides Are Applied

A detailed discussion of maintenance procedures is presented in Appendix C of the Draft EIR/EIS, with a discussion of vegetation removal beginning on page 3-29 of Appendix C. As noted there, "Maintenance roads would be sprayed with pre-emergent and post-emergent herbicides annually." As also noted there, herbicides would be used as needed in the creek channel to remove nonnative vegetation. "The maintenance activities on the natural creek banks would include removal of dead or fallen trees and control of nonnative habitat using herbicides. ...At areas designated for revegetation, the maintenance activities would be hand removal and control of nonnative habitat using herbicides." As detailed in Appendix C, vegetation removal within the creek channel is based on performance standards, which are described there. Vegetation would not be removed on a set schedule, but would only be removed when necessary to maintain flow capacity in the channel. The District uses all herbicides in accordance with manufacturer's recommendations, and in a manner to protect wildlife and public health.

Herbicide use within the channel is based on removing vegetation as it approaches or exceeds the acceptable maintenance limit, which is described in Table 3.21 of Appendix C of the EIR/EIS. It is thus not possible to state precise quantities, types, locations, and application methods for herbicides. Herbicides will not be used at all where vegetation does not exceed acceptable maintenance limits.

Revisions to Appendix C to clarify maintenance procedures follow.

TABLE C.1

HERBICIDES USED BY THE SANTA CLARA VALLEY WATER DISTRICT

Product Name	Active Ingredients & Chemical Synonyms	Product Type/Use
HERBICIDES CURRENTLY USED BY THE DISTRICT		
Rodeo	glyphosate	Post-emergent
	N-(phosphonomethyl) glycine, in the form of its isopropylamine salt	Aquatic applications
Roundup	glyphosate	Post-emergent
	N-(phosphonomethyl) glycine, in the form of its isopropylamine salt	Terrestrial applications
Garlon 3a	Triclopyr, Triethylamine salt	Post-emergent
	((3,5,6-Trichloro-2-pyridinyl)oxy) acetic acid, triethylamine salt	Terrestrial applications
Garlon 4	Triclopyr, Triethylamine salt	Post-emergent
	((3,5,6-Trichloro-2-pyridinyl)oxy) acetic acid, butoxy ethyl ester	Terrestrial applications
Oust	Sulfometuron methyl	Pre-emergent
	Methyl 2-([{([4,6-dimethyl-2-pyrimidinyl] amino)carbonyl}amino]sulfonyl)benzoate	Terrestrial applications
Telar	Chlorsulfuron	Pre-emergent
	2-Chloro-N-([{4-methoxy-6-methyl-1,3,5-triazin-2-yl}amine]carbonyl) benzene sulfonamide	Terrestrial applications
Pendulum	Pendimethalin	Pre-emergent
	N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine	Terrestrial applications
Surflan A.S.	Oryzalin	Pre-emergent
	3,5-Dinitro-N4,N4-dipropyl sulfanilamide	Terrestrial applications
Predict	Norflurazon	Pre-emergent
	4-Chloro-5-(methylamino)-2-(alpha,alpha-alpha-trifluoro-M-tolyl)-3(2H)-pyridazinone	Terrestrial applications
Gallery	Isoxaben	Pre-emergent
	N-[3(1-ethyl-1-methylpropyl)-5-isoxazolyl]-2,6-dimethoxybenzamide	Terrestrial applications

Product Name	Active Ingredients & Chemical Synonyms	Product Type/Use
R-11	Butyl alcohol	Surfactant Terrestrial applications
Pro-spreader	POE nonylphenols, isopropyl alcohol	Surfactant Terrestrial applications
HERBICIDES BEING CONSIDERED FOR FUTURE USE		
Cutrine Plus	Copper carbonate, monoethanolamine, triethanolamine	Water application (off-stream ponds only)
Sonar	Fluridone 1-Methyl-3-phenyl-5-(3-(trifluoromethyl)phenyl)-4(1H)-pyridinone	Aquatic applications
Transline	Clopyralid 3,6-Dichloro-2-pyridinecarboxylic acid, in the form of its monoethanolamine salt	Terrestrial applications

TABLE 3.21
Maintenance Standards for Sediment and Vegetation Removal
Guadalupe River—Highway 101 to I-880 and I-280 to Blossom Hill Road

Reach A: Highway 101 to I-880

	Facility Type	Maintenance Issue	Acceptable Maintenance Limit	Performance Criteria
Existing Excavated Channel	Channel Invert (Toe to Toe)	Uniform Sediment (Highway 101 to Future Skyport Drive)	Sediment 4' below depressed maintenance road on east bank, i.e., 3' sediment depth	Remove sediment from toe to toe.[1]
		Uniform Sediment (Future Skyport Drive to I-880)	Sediment 9' below depressed revegetation bench, i.e., 1' sediment depth	Remove sediment from toe to toe.[1]
		Local Sediment (bars, sloughs, etc.)	No limit	No maintenance required.
		Woody Vegetation (Willows, Cottonwoods, Bamboo, etc.)	Height of tallest vegetation outside a 50' wide corridor exceeds 10'. No woody vegetation within the 50' corridor. Within the corridor, overhanging branches that are at or below 20 feet above channel invert and greater than 6 inches in diameter would be trimmed to maintain the flow way.	In conjunction with herbicide program, remove or cut vegetation outside of the 50' corridor to height of 1' or less and chemical treatment of large stumps (except existing standing trees with trunk diameter greater than 6" shall remain).[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire invert	After herbicides treatment, remove all brush from toe to toe.
	East and West Banks	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Revegetation Areas	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Maintenance Roads and Ramps	Vegetation on Roads	No vegetation on roads	Spray preemergent and postemergent herbicides.[1]
		Vegetation Overhanging	Vegetation overhanging into roadway	Cut back overhanging vegetation to edge of maintenance road up to the height of 12'.

TABLE 3.21
Maintenance Standards for Sediment and Vegetation Removal
Guadalupe River—Highway 101 to I-880 and I-280 to Blossom Hill Road
(continued)

Reaches 6, 7, and 8: I-280 to Willow Glen Way

	Facility Type	Maintenance Issue	Acceptable Maintenance Limit	Performance Criteria
Existing Natural Channel	Channel Invert (Toe to Toe)	Woody Vegetation (Willows, Cottonwoods, bamboo, etc.)	Height of tallest vegetation outside a 25' wide corridor exceeds 10'. No woody vegetation within the 25' corridor. Within the corridor, overhanging branches that are at or below 20 feet above channel invert and greater than 6 inches in diameter would be trimmed to maintain the flow way.	In conjunction with herbicides program, remove or cut vegetation outside of the 25' wide corridor to height of 1' or less and chemical treatment of larger stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire invert	After herbicides treatment, remove all brush from 25' wide corridor.[1]
	East and West Banks	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
Gabion Bypass Channel	Channel Invert (Toe to Toe)	Streambed Scour	Expose 2' of cutoff wall	Place rock, restore bed.
		Uniform Sediment	Sediment above first gabion course (1.5')	Remove sediment.[1]
		Local Sediment (bars, sloughs, etc.)	Sediment above second gabion course (3.0')	Remove sediment.[1]
		Woody Vegetation (Willows, Cottonwoods, Bamboo, etc.)	Height of tallest vegetation exceeds 10'	In conjunction with herbicides program, remove or cut vegetation on invert to height of 1' or less and chemical treatment of large stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire invert	After herbicides treatment. remove all brush from toe to toe.[1]
	East and West Banks	Vegetation	Control of nonnative species	Control of nonnative species with herbicides and hand removal. Dead or fallen trees, and trash would be removed.
	Revegetation Areas	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Maintenance Roads and Ramps	Vegetation on Roads	No vegetation on roads	Spray preemergent and postemergent herbicides.[2]
		Vegetation Overhanging	Vegetation overhanging into roadway	Cut back overhanging vegetation to edge of maintenance road up to the height of 12'.

TABLE 3.21
Maintenance Standards for Sediment and Vegetation Removal
Guadalupe River—Highway 101 to I-880 and I-280 to Blossom Hill Road
(continued)

Reaches 9 and 10A : Willow Glen Way to Almaden Expressway (Southbound)

	Facility Type	Maintenance Issue	Acceptable Maintenance Limit	Performance Criteria
Widened Cribwall Channel	Channel Invert	Uniform Sediment (Willow Glen Way to Willow Glen Way Island)	Sediment 6' below depressed maintenance road on east bank, i.e., 3' sediment depth	Remove sediment from 25' wide corridor.[1]
		Uniform Sediment (Upstream of Willow Glen Way Island to Malone Road)	Sediment 3' below depressed maintenance road , i.e., 3' sediment depth	Remove sediment from 25' wide corridor.[1]
		Uniform Sediment (Malone Road to Malone Road Island)	Sediment 2' below depressed maintenance road on east bank, i.e., 3' sediment depth	Remove sediment from 25' wide corridor.[1]
		Uniform Sediment (Upstream of Malone Road Island to Almaden Expressway Southbound)	Sediment 2' below depressed maintenance road on east bank, i.e., 3' sediment depth	Remove sediment from 25' wide corridor.[1]
		Local Sediment (bars, sloughs,etc.)	No limit	No maintenance required.
		Woody Vegetation (Willows, Cottonwoods, bamboo, etc.)	Height of tallest vegetation outside a 25' wide corridor exceeds 10'. No woody vegetation within the 25' corridor. Within the corridor, overhanging branches that are at or below 20 feet above channel invert, and greater than 6 inches in diameter would be trimmed to maintain the flow way.	In conjunction with herbicides program, remove or cut vegetation outside of the 25' wide corridor on invert to height of 1' or less and chemical treatment of large stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire invert	After herbicides treatment, remove all brush from 25' wide corridor.[1]
	Floodway	Local Scour	Expose 2' of cutoff wall	Place rock, restore bed.
		Woody Vegetation (Willows, Cottonwoods, etc.)	Height of tallest vegetation exceeds 5'	In conjunction with herbicides program, remove or cut vegetation on floodway to height of 1' or less and chemical treatment of large stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire floodway	After herbicides treatment, remove all brush on floodway.[1]
	East and West Banks	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Depressed Maintenance Road and Ramps	Vegetation on Road	No vegetation on road	Spray preemergent and postemergent herbicides.[1]
		Vegetation Overhanging	Vegetation overhanging into roadway	Cut back overhanging vegetation to edge of maintenance road up to the height of 12'.

TABLE 3.21
Maintenance Standards for Sediment and Vegetation Removal
Guadalupe River—Highway 101 to I-880 and I-280 to Blossom Hill Road
(continued)

	Facility Type	Maintenance Issue	Acceptable Maintenance Limit	Performance Criteria
Gabion Bypass Channels (Upstream of Willow Glen Way and Malone Road)	Channel Invert	Streambed Scour	Expose 2′ of cutoff wall	Place rock, restore bed.
		Woody Vegetation (Willows, Cottonwoods, etc.)	Height of tallest vegetation exceeds 10′	In conjunction with herbicides program, remove or cut vegetation on invert to height of 1′ or less and chemical treatment of large stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire invert	After herbicides treatment, remove all brush on invert.[1]
	East and West Banks	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Revegetation Areas	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
Undisturbed Natural Channels (Upstream of Willow Glen Way and Malone Road)	Channel Invert	Woody Vegetation (Willows, Cottonwoods, bamboo, etc.)	Height of tallest vegetation within a 25′ wide designated corridor exceeds 10′. Within the corridor, overhanging branches that are at or below 20 feet above channel invert and greater than 6 inches in diameter would be trimmed to maintain the flow way.	In conjunction with herbicides program, remove or cut a 25′ wide corridor through vegetation on invert to height of 1′ or less and chemical treatment of large stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire invert	After herbicides treatment, remove all brush from 25′ wide corridor.[1]
	East and West Banks	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.

TABLE 3.21
Maintenance Standards for Sediment and Vegetation Removal
Guadalupe River—Highway 101 to I-880 and I-280 to Blossom Hill Road
(continued)

Reach 10B: Almaden Expressway (Southbound) to Gage Station 23B

	Facility Type	Maintenance Issue	Acceptable Maintenance Limit	Performance Criteria
Existing Gabion Lined Channel	Channel Invert	Streambed Scour	Expose 2' of cutoff wall	Place rock, restore bed.
		Uniform Sediment (Almaden Expressway Southbound to Northbound)	Sediment above first gabion course (1.5')	Remove sediment from invert.[1]
		Uniform Sediment (Almaden Expressway Northbound to Gage Station 23B)	No limit	No maintenance required.
		Local Sediment (bars, sloughs, etc.)	No limit	No maintenance required.
		Woody Vegetation (Willows, Cottonwoods, bamboo, etc.)—Almaden Expressway Southbound to Northbound	Height of tallest vegetation outside a 25' wide corridor exceeds 10'. No woody vegetation within the 25' corridor. Within the corridor, overhanging branches that are at or below 20 feet above channel invert and greater than 6 inches in diameter would be trimmed to maintain the flow way.	In conjunction with herbicides program, remove or cut vegetation outside the 25' wide corridor on invert to height of 1' or less and chemical treatment of large stumps.[1]
		Woody Vegetation (Willows, Cottonwoods, bamboo, etc.)—Almaden Expressway Northbound to Gage Station 23B	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.[1]
		Flexible Vegetation (brush, vines, etc.)—Almaden Expressway Southbound to Northbound	Vegetation occupies entire invert	After herbicides treatment, remove all brush from 25' wide corridor.[1]
		Flexible Vegetation (brush, vines, etc.)—Almaden Expressway Northbound to Gage Station 23B	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.[1]
	Floodway	Woody Vegetation (Willows, Cottonwoods, etc.)	Height of tallest vegetation exceeds 5'	In conjunction with herbicides program, remove or cut vegetation on floodway to height of 1' or less and chemical treatment of large stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire floodway	After herbicides treatment, remove all brush on floodway.[1]
	East and West Banks	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Revegetation Areas	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Depressed Maintenance Road, Ramps and Road on Levee	Vegetation on Road	No vegetation on road	Sprayed preemergent and postemergent herbicides.[2]
		Vegetation Overhanging	Vegetation overhanging into roadway	Cut back overhanging vegetation to edge of maintenance road up to the height of 12'.

TABLE 3.21
Maintenance Standards for Sediment and Vegetation Removal
Guadalupe River—Highway 101 to I-880 and I-280 to Blossom Hill Road
(continued)

Reach 10C: Gage Station 23B to Capitol Expressway

	Facility Type	Maintenance Issue	Acceptable Maintenance Limit	Performance Criteria
Widened Gabion Channel	Channel Invert	Woody Vegetation (Willows, Cottonwoods, bamboo, etc.)	Height of tallest vegetation outside a 25' wide corridor exceeds 10'. No woody vegetation within the 25'corridor. Within the corridor, overhanging branches that are at or below 20 feet above channel invert and greater than 6 inches in diameter would be trimmed to maintain the flow way.	In conjunction with herbicides program, remove or cut vegetation outside of 25' wide corridor on invert to height of 1' or less and chemical treatment of large stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire invert	After herbicides treatment, remove all brush from 25' wide corridor.[1]
	Floodway	Local Scour	Expose 2' of cutoff wall	Place rock, restore bed.
		Woody Vegetation (Willows, Cottonwoods, etc.)	Height of tallest vegetation exceeds 5'	In conjunction with herbicides program, remove or cut vegetation on floodway to height of 1' or less and chemical treatment of large stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire floodway	After herbicides treatment, remove all brush on floodway.[1]
	East and West Banks	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Revegetation Areas	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Depressed Maintenance Road and Ramps	Vegetation on Road	No vegetation on road	Spray preemergent and postemergent herbicides.[2]
		Vegetation Overhanging	Vegetation overhanging into roadway	Cut back overhanging vegetation to edge of maintenance road up to the height of 12'.

TABLE 3.21
Maintenance Standards for Sediment and Vegetation Removal
Guadalupe River—Highway 101 to I-880 and I-280 to Blossom Hill Road
(continued)

Reach 11: Capitol Expressway to Branham Lane

	Facility Type	Maintenance Issue	Acceptable Maintenance Limit	Performance Criteria
Widened Gabion Channel	Channel Invert	Streambed Scour	Expose 2′ of cutoff wall	Place rock, restore bed.
		Uniform Sediment (Capitol Expressway to San Jose Water Co. property)	Sediment above second gabion course (3.0′)	Remove sediment from 25′ wide corridor.[1]
		Uniform Sediment (San Jose Water Co. property to Ross Creek confluence)	Sediment at same elevation as depressed revegetation bench on west bank, i.e., 3′ sediment depth	Remove sediment from 25′ wide corridor.[1]
		Uniform Sediment (Ross Creek confluence to Branham Lane)	Sediment 3′ below depressed maintenance road on west bank, i.e., 3′ sediment depth	Remove sediment from 25′ wide corridor.[1]
		Local Sediment (bars, sloughs, etc.)	No limit	No maintenance required.
		Woody Vegetation (willows, Cottonwoods, bamboo, etc.)	Height of tallest vegetation outside a 25′ wide corridor exceeds 10′. No woody vegetation within the 25′ corridor. Within the corridor, overhanging branches that are at or below 20 feet above channel invert and greater than 6 inches in diameter would be trimmed to maintain the flow way.	In conjunction with herbicides program, remove or cut vegetation outside of the 25′ wide corridor on invert to height of 1′ or less and chemical treatment of large stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire invert	After herbicides treatment, remove all brush from 25′ wide corridor.[1]
	Floodway (Ross Creek Confluence to Branham Lane)	Woody Vegetation (Willows, Cottonwoods, etc.)	Height of tallest vegetation exceeds 5′	In conjunction with herbicides program, remove or cut vegetation on floodway to height of 1′ or less and chemical treatment of large stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire floodway	After herbicides treatment, remove all brush on floodway.[1]
	East and West Banks	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.

TABLE 3.21
Maintenance Standards for Sediment and Vegetation Removal
Guadalupe River—Highway 101 to I-880 and I-280 to Blossom Hill Road
(continued)

	Facility Type	Maintenance Issue	Acceptable Maintenance Limit	Performance Criteria
	Revegetation Areas	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Depressed Maintenance Roads and Ramps	Vegetation on Roads	No vegetation on roads	Sprayed preemergent and postemergent herbicides.[1]
		Vegetation Overhanging	Vegetation overhanging into roadway	Cut back overhanging vegetation to edge of maintenance road up to the height of 12'.
Gabion Bypass Channel (Upstream of Capitol Expressway)	Channel Invert	Streambed Scour	Expose 2' of cutoff wall	Place rock, restore bed.
		Woody Vegetation (Willows, Cottonwoods, etc.)	Height of tallest vegetation exceeds 10'	In conjunction with herbicides program, remove or cut vegetation on invert to height of 1' or less and chemical treatment of large stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire invert	After herbicides treatment, remove all brush on invert.[1]
	East and West Banks	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Revegetation Areas	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.

TABLE 3.21
Maintenance Standards for Sediment and Vegetation Removal
Guadalupe River—Highway 101 to I-880 and I-280 to Blossom Hill Road
(continued)

Reach 12: Branham Lane to Blossom Hill Road

	Facility Type	Maintenance Issue	Acceptable Maintenance Limit	Performance Criteria
Existing Natural Channel	Channel Invert	Uniform Sediment—Branham Lane to Branham Lane Dam	Sediment 4′ below depressed maintenance road on east bank, i.e., 3′ sediment depth	Remove sediment from invert.[1]
		Uniform Sediment—Branham Lane Dam to Chynoweth Avenue	Sediment 9′ below depressed maintenance road on east bank, i.e., 3′ sediment depth	Remove sediment from invert.[1]
		Uniform Sediment—Chynoweth Avenue to Blossom Hill Dam	Sediment 4′ below depressed maintenance road on east bank, i.e., 3′ sediment depth	Remove sediment from invert.[1]
		Uniform Sediment—Blossom Hill Dam to Blossom Hill Road	Sediment 12′ below depressed maintenance road on east bank, i.e., 3′ sediment depth	Remove sediment from invert.[1]
		Local Sediment (bars, sloughs, etc.)	No limit	No maintenance required.
		Woody Vegetation (Willows, Cottonwoods, etc.)	Height of tallest vegetation outside a 25′ wide corridor exceeds 10′. No woody vegetation within the 25′ corridor. Within the corridor, overhanging branches that are at or below 20 feet above channel invert and greater than 6 inches in diameter would be trimmed to maintain the flow way.	In conjunction with herbicides program, remove or cut vegetation outside of the 25′ wide corridor on invert to height of 1′ or less and chemical treatment of large stumps.[1]
		Flexible Vegetation (brush, vines, etc.)	Vegetation occupies entire invert	After herbicides treatment, remove all brush from 25′ wide corridor.[1]
	East and West Banks	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Revegetation Areas	Vegetation	Control of nonnative species	Hand removal and control of nonnative species with herbicides. Dead or fallen trees, and trash would be removed.
	Maintenance Roads and Ramps	Vegetation on Roads	No vegetation on roads	Spray preemergent and postemergent herbicides.[2]
		Vegetation Overhanging	Vegetation overhanging into roadway	Cut back overhanging vegetation to edge of maintenance road up to the height of 12′.

TABLE 3.21
Maintenance Standards for Sediment and Vegetation Removal
Guadalupe River—Highway 101 to I-880 and I-280 to Blossom Hill Road
(continued)

Canoas Creek: Almaden Expressway to End of Nightingale Drive

	Facility Type	Maintenance Issue	Acceptable Maintenance Limit	Performance Criteria
Floodwalls	Channel Invert	Uniform Sediment	Sediment 1′ above invert	Remove sediment from invert.[1]
		Local Sediment (bars, sloughs, etc.)	No limit	No maintenance required.
		Woody Vegetation	Height of tallest vegetation exceeds 5′	In conjunction with herbicides program, remove or cut vegetation on invert to height of 1′ or less and chemical treatment of large stumps.[1]
		Brush, Vines, etc.	Vegetation occupies entire invert	After herbicides treatment, remove all brush from toe to toe.[1]
	East and West Banks	Woody Vegetation	Height of tallest vegetation exceeds 5′	In conjunction with herbicides program, remove or cut vegetation on banks to height of 1′ or less and chemical treatment of large stumps.[1]
		Brush, Vines, etc.	Vegetation occupies entire banks	After herbicides treatment, remove all brush on banks.[1]
	Maintenance Road and Ramps	Vegetation on Road	No vegetation on road	Sprayed preemergent and postemergent herbicides.[2]
		Vegetation Overhanging	Vegetation overhanging into roadway	Cut back overhanging vegetation to edge of maintenance road up to the height of 12′.

TABLE 3.21
Maintenance Standards for Sediment and Vegetation Removal
Guadalupe River—Highway 101 to I-880 and I-280 to Blossom Hill Road
(continued)

Ross Creek: Almaden Expressway to Cherry Avenue

	Facility Type	Maintenance Issue	Acceptable Maintenance Limit	Performance Criteria
Armorflex Lined Channel	Channel Invert	Uniform Sediment	Sediment 1′ above invert	Remove sediment from invert.[1]
		Local Sediment (bars, sloughs, etc.)	No limit	No maintenance required.
		Woody Vegetation	Height of tallest vegetation exceeds 5′	In conjunction with herbicides program, remove or cut vegetation on invert to height of 1′ or less and chemical treatment of large stumps.[1]
		Brush, Vines, etc.	Vegetation occupies **entire** invert	After herbicides treatment, remove all brush from toe to toe.[1]
	East and West Banks	Woody Vegetation	Height of tallest vegetation exceeds 5′	In conjunction with herbicides program, remove or cut vegetation on banks to height of 1′ or less and chemical treatment of large stumps.[1]
		Brush, Vines, etc.	Vegetation occupies **entire** banks	After herbicides treatment, remove all brush on banks.[1]
	Maintenance Road and Ramps	Vegetation on Road	No vegetation on road	Sprayed preemergent and postemergent herbicides.[2]
		Vegetation Overhanging	Vegetation overhanging into roadway	Cut back overhanging vegetation to edge of maintenance road up to the height of 12′.

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[1] Historical records show that sediment and vegetation very seldom reached the limit specified. It is anticipated that very minimal maintenance activities are required and, therefore, it is estimated for once in every 10 years.

[2] It is anticipated that postemergent herbicide usage will be very minimal and preemergent herbicides are estimated to be used once a year.

MASTER RESPONSE D
EVALUATION OF MAINTENANCE COST FOR ALL FEASIBLE ALTERNATIVES

Several comments requested that the EIR/EIS include a comparison of maintenance costs for the Preferred Project and other alternative plans.

Table 3.1b shows a comparison of annual maintenance costs for the different alternative plans and has been added to Chapter 3 of the EIR/EIS.

The Preferred Project is expected to result in an annual maintenance cost of $51,000 over a 100-year project lifespan; which results in a present worth total cost of $640,000 (1997 dollars). The Minimize Vegetation Impacts Alternative is expected to result in an annual maintenance cost of $41,000 over a 100-year project lifespan; which results in a present worth total cost of $510,000 (1997 dollars). The Fluvial Geomorphological Alternative once established, is expected to result in an annual maintenance cost of $7,000 over a 100-year project lifespan; which results in a present worth total cost of $87,000 (1997 dollars).

TABLE 3.1b

SUMMARY ANNUAL MAINTENANCE COST ESTIMATES FOR ALTERNATIVE PLANS

Reach	Preferred Project	Minimize Vegetation Impacts Alternative	Fluvial Geomorphological Alternative
Reach 6: I-280 to SPRR			
Vegetation removal	$4,410	$4,410	$340
Sediment removal	$2,660	$2,660	$260
Reach 7: SPRR to UPRR			
Vegetation removal	$6,650	$6,650	$540
Sediment removal	$2,000	$2,000	$410
Reach 8: UPRR to Willow Glen Way			
Vegetation removal	$2,180	$2,180	$200
Sediment removal	$1,490	$1,490	$150
Reach 9: Willow Glen Way to Curtner Avenue			
Vegetation removal	$6,870	$4,030	$650
Sediment removal	$980	$2,020	$490
Reach 10: Curtner Avenue to Capitol Expressway			
Vegetation removal	$5,140	$3,180	$900
Sediment removal	$1,540	$1,760	$690
Reach 11: Capitol Expressway to Branham Lane			
Vegetation removal	$6,460	$3,860	$670
Sediment removal	$1,020	$1,880	$510
Reach 12: Branham Lane to Blossom Hill Road			
Vegetation removal	$7,790	$4,200	$740
Sediment removal	$1,720	$1,130	$570
Vegetation Removal subtotal	$39,500	$28,510	$4,040
Sediment Removal Subtotal	$11,410	$12,940	$3,080
Total	$50,910	$41,450	$7,120

MASTER RESPONSE E
THE DIFFERENCE BETWEEN THIS PROJECT AND THE DOWNTOWN FLOOD CONTROL PROJECT

Several comments expressed concern about the viability of the design for the Preferred Project, citing problems with the Downtown Flood Control Project's bypass channels.

The proposed project is very different from the Downtown Project. The proposed bypass channel incorporates a design in which the bypass channel entrance at the upstream end is elevated above the bankfull flow elevation, approximately 1.5-2 year flow. Therefore, flows at bankfull (channel forming and sediment carrying flow) or below will continue in the natural channel. This design minimizes the potential sedimentation entering the bypass channel.

At reaches where channel widening is proposed, the design follows the terraced floodplain approach. The widened bench is elevated above bankfull flow elevation, so that flows at bankfull or below will continue in the natural channel. This design minimizes the potential sedimentation on the widened bench.

According to the Sediment Transport Modeling Study of the Upper Guadalupe River, January 1996, by Phillip Williams and Associates, sediment deposition with the proposed plan does not have a significant impact in the Guadalupe River. The study stated that deposition in the bypass channel, if it occurs at all, would be very small. Because the weir that controls flow into the bypass channel would be approximately 9 feet above the bed of the main channel, very little bedload sediment would enter the bypass channel. The majority of the sediment that would enter the bypass channel would be very fine suspended sediments, near the top of the water column, that would likely be washed through the system without ever being deposited. The study also stated that the proposed project's configuration is stable and scour caused bed elevation changes are minimal, less than 1.0 foot for the one percent flood condition.

MASTER RESPONSE F
RELATIONSHIP OF UPPER GUADALUPE RIVER FLOOD CONTROL PROJECT TO DOWNTOWN CORPS GUADALUPE RIVER FLOOD CONTROL PROJECT

Several comments requested that the EIR/EIS address how the impacts and mitigation measures of the Downtown Guadalupe River Flood Control Project relate to the Upper Guadalupe River Flood Control Project. Comments expressed concern about how regulatory compliance for the Upper Guadalupe River Flood Control Project can be treated independently of the Downtown Guadalupe River Flood Control Project.

The following change is made to the Draft EIR/EIS:

Page 2-5: The following is inserted at the end of section 2.5 with a new header:

Regulatory Compliance for the Upper Guadalupe River Flood Control Project

None of the proposed mitigation measures for the Upper Guadalupe River Flood Control Project are dependent upon any other project in the Guadalupe River basin area nor is there any mitigation overlap with any other project in the Guadalupe River basin area (see Section 5.1, "Other Projects Proposed in Vicinity of Guadalupe River Corridor"). However, the Upper project can not be completed until construction of the Downtown Guadalupe River Flood Control Project is completed; thereby ensuring that the areas of the Guadalupe River downstream of the project area have the capacity to handle the 100-year flood.

The District intends to go forward with applications for permits for the Upper Guadalupe River Flood Control Project and initiate construction as soon as possible, so that at least portions of the project can be completed concurrently or just after the Downtown Guadalupe River Flood Control Project. The Upper Guadalupe River Flood Control Project has been addressed in full in this EIR/EIS and independent mitigation measures have been proposed that would reduce impacts to less than significance. In addition, cumulative impacts of the Upper Guadalupe River Flood Control Project and other present and reasonably foreseeable projects in the project area have been addressed in this EIR/EIS and appropriate mitigation measures identified that would reduce the project's contribution to these effects. In particular, the EIR/EIS addresses potential direct, indirect, and basin-wide cumulative impacts and mitigation measures related to the threatened steelhead trout and red-legged frog and the proposed threatened chinook salmon.

Page 3-51: The following is added after the first full paragraph under a new header:

Relationship of the Upper Project to the Downtown Guadalupe River Flood Control Project

The Downtown Guadalupe River Flood Control Project extends from I-880 to I-280 and is divided into three 'contracts'. Contract 1 includes the area between I-880 and Hedding Street; construction began in 1992. Contract 2 includes the area between

Hedding Street and Coleman Avenue; construction began in 1994. Contract 3 includes the area between Coleman Avenue and I-280; construction has not commenced in Contract 3.

The U.S. Army Corps of Engineers (Corps), Sacramento District, prepared an Environmental Impact Statement (EIS) for the project in 1985. In January 1991, the Corps prepared an Environmental Assessment (EA) that incorporated some recreational aspects of the Guadalupe River Park Project (January 2, 1991) and habitat impacts resulting from trail construction and recreational use. In 1992, the Corps prepared a final mitigation and monitoring plan to address project-related impacts. This plan is being revised to address a number of issues, including impacts on shaded riverine aquatic (SRA) habitat, thermal issues, and fisheries. In addition, an interagency and public collaborative process was initiated in 1997 to reach a consensus on features of the project and mitigation.

The project, as presently proposed, includes an underground triple-bypass culvert that would likely extend from the vicinity of Santa Clara Street to Highway 101 and would reduce impacts to a total of approximately 8,821 linear feet of SRA habitat. Riparian impacts would total 15.3 acres. Other impacts include elevated instream temperatures in the project area and anadromous salmonid staging/resting area losses. Up to 25,000 square feet of potential anadromous salmonid spawning gravels would also be affected.

Mitigation for the loss of riparian habitat includes planting riparian vegetation in Contracts 1 and 2. Impacted potential spawning gravels in the project area will be replaced and maintained. Mitigation measures for fish impacts include providing a low-flow channel to maintain fish passage and SRA habitat replacement on-site, in Reach A (Airport Reach) and in Lower Guadalupe Creek.

No portion of the Downtown project's proposed mitigation is presently included as mitigation for the Upper Guadalupe River Flood Control Project. See Chapter 5, "Cumulative Impacts," for a summary of the presently proposed SRA habitat, riparian, and fisheries mitigation for both the Downtown and Upper Guadalupe River Flood Control Projects.

Page 5-1: The first bulleted section is modified as follows:

- ~~The Guadalupe River Flood Control Project from I-880 to I-280. This project (the Downtown Guadalupe Project) will be constructed in three phases. Construction at the first reach (Hedding Street to I-880) began in August 1992. The project is expected to be completed in 1998.~~

  ~~The U.S. Army Corps of Engineers (Corps), Sacramento District, prepared an Environmental Impact Statement (EIS) for the project in 1985. In January 1991, the Corps prepared an Environmental Assessment (EA) that incorporated some recreational aspects of the Guadalupe River Park Project (January 2, 1991) and habitat resulting from trail construction and recreational use. In 1992, the Corps prepared a final mitigation and monitoring plan to address project related impacts. This plan is~~

~~being revised to address a number of issues, including impacts on shaded riverine aquatic (SRA) habitat.~~

~~Project construction activities will eliminate 15.3 acres of riparian habitat and 25,000 square feet of potential anadromous salmonid spawning gravels. Wetlands and jurisdictional waters of the United States will not be affected. The project will affect approximately 9,800 linear feet of SRA habitat; however, impacts on SRA habitat and mitigation sites are being reevaluated. Other impacts include potentially elevated instream temperatures and anadromous salmonid staging/resting area losses.~~

~~Mitigation for the loss of riparian habitat requires planting 22.5 acres of riparian vegetation. For loss of potential spawning gravels in the project area, 25,000 square feet will be replaced and maintained. Mitigation for SRA habitat is being reevaluated. Mitigation measures for fish impacts including providing a low flow channel and replacement of spawning gravels.~~

~~A 10-year mitigation evaluation will determine the success of mitigation measures and whether additional corrective measures and monitoring are necessary.~~

- The Downtown Guadalupe River Flood Control Project. This project extends from I-880 to I-280 and is divided into three "contracts." Contract 1 includes the area between I-880 and Hedding Street; construction began in 1992. Contract 2 includes the area between Hedding Street and Coleman Avenue; construction began in 1994. Contract 3 includes the area between Coleman Avenue and I-280; construction has not commenced in Contract 3.

  The U.S. Army Corps of Engineers (Corps), Sacramento District, prepared an Environmental Impact Statement (EIS) for the project in 1985. In January 1991, the Corps prepared an Environmental Assessment (EA) that incorporated some recreational aspects of the Guadalupe River Park Project (January 2, 1991) and habitat impacts resulting from trail construction and recreational use. In 1992, the Corps prepared a final mitigation and monitoring plan to address project-related impacts. This plan is being revised to address a number of issues, including impacts on shaded riverine aquatic (SRA) habitat, thermal issues, and fisheries. In addition, an interagency and public collaborative process was initiated in 1997 to reach a consensus on features of the project and mitigation.

  The project, as presently proposed, includes an underground triple-bypass culvert that would likely extend from the vicinity of Santa Clara Street to Highway 101 and would reduce impacts to a total of approximately 8,821 linear feet of SRA habitat. Riparian impacts would total 15.3 acres. Other impacts include elevated instream temperatures in the project area and anadromous salmonid staging/resting area losses. Up to 25,000 square feet of potential anadromous salmonid spawning gravels would also be affected.

  Mitigation for the loss of riparian habitat includes planting riparian vegetation in Contracts 1 and 2. Impacted potential spawning gravels in the project area will be replaced and maintained. Mitigation measures for fish impacts include providing a low-flow channel to maintain fish passage and SRA habitat replacement on-site, in Reach A (Airport Reach) and in Lower Guadalupe Creek.

No portion of the Downtown project's proposed mitigation is presently included as mitigation for the Upper Guadalupe River Flood Control Project. Table 5.1a summarizes the presently proposed SRA habitat, riparian, and fisheries mitigation for both the Downtown and Upper Guadalupe River Flood Control Projects.

Page 5-14. The fourth full paragraph is modified as follows:

Implementation of the Downtown Guadalupe project was determined to ~~affect~~ require approximately 7,860~~9,800~~ linear feet of shaded riverine aquatic (SRA) habitat and 25,000 square feet of anadromous spawning gravels as mitigation; however, impacts on ~~SRA~~ spawning gravels are being reevaluated. Implementing the proposed Upper Guadalupe River Project would require 5,096 ~~result in the direct removal of 3,959~~ linear feet of overhead cover in the form of overwater riparian vegetation and 1,720~~359~~ linear feet of undercut banks as mitigation.

Page 5-20: The following is inserted prior to Section 5.3:

Regulatory Compliance for the Upper Guadalupe River Flood Control Project

None of the proposed mitigation measures for the Upper Guadalupe River Flood Control Project are dependent upon any other project in the Guadalupe River basin area nor is there any mitigation overlap with any other project in the Guadalupe River basin area (see Section 5.1, "Other Projects Proposed in Vicinity of Guadalupe River Corridor"). However, the Upper project can not be completed until construction of the Downtown Guadalupe River Flood Control Project is completed; thereby ensuring that the areas of the Guadalupe River downstream of the project area have the capacity to handle the 100-year flood.

The District intends to go forward with applications for permits for the Upper Guadalupe River Flood Control Project and initiate construction as soon as possible, so that at least portions of the project can be completed concurrently or just after the Downtown Guadalupe River Flood Control Projects. The Upper Guadalupe River Flood Control Project has been addressed in full in this EIR/EIS and independent mitigation measures have been proposed that would reduce impacts to less than significance. In addition, cumulative impacts of the Upper Guadalupe River Flood Control Project and other present and reasonably foreseeable projects in the project area have been addressed in this EIR/EIS and appropriate mitigation measures identified that would reduce the project's contribution to these effects. In particular, the EIR/EIS addresses potential direct, indirect, and basin-wide cumulative impacts and mitigation measures related to the threatened steelhead trout and red-legged frog and the proposed threatened chinook salmon.

TABLE 5.1a

COMPARISON OF SRA AND RIPARIAN MITIGATION FOR DOWNTOWN AND UPPER GUADALUPE RIVER FLOOD CONTROL PROJECTS

Mitigation Site	Downtown Project SRA(lf)[a]	Downtown Project Riparian (location)	Upper Project SRA (lf)	Upper Project Riparian (ac)
Contract 1, 2, and 3	2,520	2.16	—	—
Bypass Reach (Woz Way)	480	X	—	—
Reach A (Airport Reach)	7,800	—	—	—
Reach 6-10A	—	—	3,650	7.61
Reach 10B	—	—	2,180	2.52
Reach 10C-11	—	—	6,543	8.29
Reach 12	—	—	975	6.45
Reach 13	—	—	—	1.29
Lower Guadalupe Creek	12,044	—	—	—
Barrier Removal - Guadalupe River	—	—	permanent fix	—
Barrier Removal - Upper Guadalupe Creek	—	—	permanent fix	—
Cumulative: Barrier Removal — Alamitos Creek	—	—	permanent fix	—
Total of Potential Mitigation	22,844		13,348	26.17
Needed	18,026[b]	21.6 (1.4:1)	4,886 (1:1)	20.89 (2:1)

*a Assumes implementation of Triple Bypass Alternative. Final bypass alternative may be modified.

b Total need for mitigation based on HEP.

— No mitigation for this project in this reach.

MASTER RESPONSE G
EVALUATION OF THE PROPOSED MAINTENANCE ROADS AND RAMPS

A number of comments questioned the reasons for incorporating maintenance roads and ramps in project design, and requested that these facilities be eliminated to allow more riparian vegetation.

Most of the maintenance roads were designed to be located on the floodway areas, which are required to be cleared of vegetation in order to carry flood flows, therefore not incurring additional impacts. Removing maintenance roads in the floodway areas will not provide any additional riparian habitat since the floodway areas must be kept clear of vegetation.

All the maintenance roads and ramps are designed to provide continuous access for maintenance of the channel. They are designed to avoid and minimize impacts to riparian habitat wherever possible. These ramps and maintenance roads will reduce impacts by eliminating the need to remove riparian vegetation during emergencies. There are no concrete ramps proposed in the project. All the maintenance roads and ramps will be surfaced with minimum 6 inch crushed rock and will be constructed above the bankfull flow elevation. In many places, the maintenance road may also be the foundation for a recreational trail by others and might be paved with asphalt. All proposed maintenance roads are 18 feet wide because they will provide access to the District's heavy equipment.

MASTER RESPONSE H

THERMAL ANALYSIS AND EVALUATION OF IMPACTS ON FISHERIES

Several comments requested that the Draft EIR/EIS include a thermal analysis of the project and the potential implications any thermal effects have on fish, particularly for anadromous salmonids.

The following change is made to the Draft EIR/EIS:

On Page 4.14-16: The following is inserted after the second full paragraph:

> Streamflow. Streamflow is a dominant variable affecting rearing habitat for fish, including salmonids. Streamflow directly determines the amount of physical habitat with appropriate combinations of depth, velocity, substrate, and cover. Streamflow also influences the extent of suitable water temperatures, water quality conditions, and habitat for production of aquatic invertebrates, a major food source for fish species such as chinook salmon and steelhead. With respect to steelhead, summer and early-fall base flows are perhaps the most critical habitat because, unlike chinook salmon, steelhead juveniles rear in freshwater year-round.
>
> Streamflow on the mainstem Guadalupe River is monitored by the District (e.g., stream gage Station Nos. 20 and 23B), and by the USGS (Figure 4.14-2a). Stream gage Station No. 20 is located at the Alamitos Drop Structure (at the upstream boundary of the project area) and measures and records releases from Almaden Lake, which forms the terminus of both Alamitos and Guadalupe Creeks. Stream gage Station No. 23B is located near Koch Lane at the boundary of Reaches 10B and 10C and is downstream of the Guadalupe River-Ross Creek confluence. The USGS stream gage is located in downtown San Jose immediately upstream of the St. John Street bridge, which is downstream of the Guadalupe River-Los Gatos Creek confluence.
>
> Streamflow is highly variable from month to month and year to year. Tables F-C.1 through F-C.3 (in Appendix F-C) present the frequency of flows as percentiles by month at the three monitoring sites on the Guadalupe River. The percentile for an average daily flow value is the percent of days over a period of record that have lower values. For example, the flow value corresponding to the 20th-percentile represents the flow that is equaled or exceeded 80-percent of the time. Therefore, the 50-percentile flow represents the median (or middle) flow value for the period of record. This means that 50-percent of the flows equaled or exceeded the median flow and 50-percent of the flows equaled or were below the median flow over the period of record. The 0-percentile and 100-percentile values represent the absolute minimum and maximum flows, respectively.
>
> Peak reservoir releases are most common from January through May, in response to peak watershed runoff and reservoir spills. Because Almaden Lake releases are uncontrolled (i.e., uncontrolled surface release), outflows from Almaden Lake essentially match inflows to the lake. Guadalupe River flows are a function of

reservoir spills and releases, and watershed runoff. Consequently, the flow pattern in the Guadalupe River is similar to that of the tributary streams. For example, maximum flows in the Guadalupe River (as measured at the three Guadalupe River stream gages) also occurs from January through April (Tables F-C.1 through F-C.3). These maximum rainy season flows increase in magnitude with increasing distance downstream of the reservoirs, and range from 2 to 100 times greater than maximum flows recorded at the same gage during other months. The overall maximum streamflow recorded for the period of record is 7,870 cfs at the USGS gage and the minimum recorded streamflow recorded is 0.00 cfs at all three stream gages. During periods of zero flow, resident fish are restricted to pool habitats and other areas of the stream where surface water occurs. Prolonged periods of low surface flow reduces fish survival and growth because of increased competition for living space and food, and because of elevated water temperatures and low dissolved oxygen. Such conditions may have occurred historically during drought periods, although the frequency of intermittent surface flow is unknown.

In general, median flows at the three gaging stations are highest during spring (i.e., March and May) (Tables F-C.1 through F-C.3). At stream gage Station No. 20, the greatest median flow is 12.5 cfs and occurs in May (Table F-C.1). Farther downstream at stream gage Station No. 23B and the USGS stream gage, however, median flows peak at 13.4 cfs and 19.5 cfs, respectively, in March (Tables F-C.2 and F-C.3). At the two more downstream stream gages (i.e., stream gage Station No. 23B and the USGS stream gage), median flows drop sharply beginning in April and lasting through November, compared to median flows at stream gage Station No. 20 which are much higher (e.g., 4.8 cfs to 12.5 cfs) during this same period (Figures 4.14-2a through 4.14-2c). Although median flows at stream gage Station No. 23B during the 1972-1995 period of record were zero during June through October, the current MOU between the District and DFG requires that a minimum of 1 cfs be maintained as far downstream as stream gage Station No. 23B during groundwater recharge operations (i.e., approximately April through October). Consequently, current median flow values are higher than those reported for the 1972-1995 period of record.

Water Temperature. Water temperature is affected by weather; reservoir operations; flow; tributary inflow; groundwater; and physical habitat, including shading by riparian vegetation. Water temperature is a key variable that determines the suitability of fish habitat. This is especially true for chinook salmon and steelhead which have relatively narrow temperature requirements for carrying out their life history. Table 4.14-1a presents thermal requirements for key life stages of chinook salmon and steelhead based on information from the published literature (Raleigh et al. 1984; Raleigh et al. 1986; Rich 1987).

Each life stage of chinook salmon and steelhead has different physiological responses to water temperature conditions. These responses may reflect chronic and sublethal effects, such as suppressed development rate, growth rate, or condition, or there may be acute effects resulting in the loss of equilibrium and ultimately death. The thermal tolerance of each life stage varies in response to a number of factors, including:

- the acclimation temperature,
- the absolute exposure temperature,
- the duration of exposure to elevated temperature, and
- the overall health and condition of the organisms.

In late-1995, the District initiated hourly monitoring of water temperature at various stations throughout the Guadalupe River system. A total of 21 water temperature monitoring stations are present on the Guadalupe River, and Alamitos, Arroyo Calero, and Guadalupe Creeks (Figure 4.14-2a). Hourly water temperature is measured using electronic data loggers that are left in the creeks continuously and downloaded periodically to retrieve the water temperature data. For the purposes of this discussion, water temperature information is presented and discussed for six key monitoring sites on the Guadalupe River (i.e., Alamitos drop structure, Branham Lane, stream gage Station No. 23B, the Guadalupe River-Los Gatos Creek confluence, Interstate-880, and Montague Expressway). See the section in this chapter on upstream tributaries for information related to water temperature for Alamitos, Arroyo Calero, and Guadalupe Creeks.

Percentiles of the measured hourly data are presented in Tables F-C.4 through F-C.15 by month and illustrate potential response of each species life stage for each temperature monitoring station. Similar to the percentile tables for streamflow, these percentile tables for water temperature represent the relatively ranking of all of the measured water temperatures within each month. The full range of variation of the measured water temperatures by month is bracketed by the 0-percentile value (minimum measured temperature) and the 100-percentile value (maximum measured temperature).

The species and life stage water temperature needs are based on the scientific literature (Table 4.14-1a). Water temperature is considered *optimal* when water temperature is not a factor in determining growth and survival of the species life stage. Water temperature is considered *suboptimal* when it is a limiting factor in determining growth and survival of the species life stage. *Lethal* temperatures are those that exceed the physiological limits of the species life stage and result in death.

Fisheries Resources

Presently, adult chinook salmon and steelhead have access to all reaches of the Guadalupe River (up to the Alamitos drop structure near Blossom Hill Road) despite various partial barriers to fish migration (e.g., the low flow vehicle crossing downstream of Branham Lane and the concrete weir/apron at Hillsdale Avenue). The following discussion presents information on the suitability of the Guadalupe River, based on water temperature, for key life stages of chinook salmon and steelhead.

Steelhead. Based on the available data, optimal and sub-optimal water temperatures for juvenile steelhead rearing were present during the monitoring period at all 6 monitoring stations (i.e., at the Alamitos Drop Structure, Branham Lane, stream gage Station No. 23B, Guadalupe River-Los Gatos Creek confluence, Interstate-880, and Montague Expressway) during July through October (Tables F-C.4 through F-C.9). Although juvenile steelhead rearing in freshwater year-round, the period July through October (with special emphasis on July and August) was chosen as the months to evaluate the potential for the stream to support juvenile steelhead because this is when water temperatures typically are most limiting for juvenile steelhead. Water temperatures considered lethal for juvenile rearing were measured at four of the six sites; these excessive water temperatures occurred at the Alamitos Drop Structure, Branham Lane, stream gage Station No. 23B, and Montague Expressway (Tables F-C.4, F-C.5, F-C.6, and F-C.9, respectively). Measured water temperatures at the Guadalupe River-Los Gatos Creek confluence and Interstate-880 did not exceed the 77°F threshold for juvenile rearing (Tables F-C.7 and F-C.8, respectively).

Water temperatures for steelhead spawning (i.e., January through April) were optimal or suboptimal for the majority of spawning period at all stations (Tables F-C.4, F-C.5, F-C.6, F-C.8, and F-C.9); data for the Guadalupe River-Los Gatos Creek confluence monitoring site is mostly incomplete (Table F-C.7). Water temperatures considered lethal for steelhead spawning occurred more than one-half the time by at least April at all six monitoring sites. For smoltification (March through June), optimal or suboptimal water temperatures were present at least 80 percent of the time in March at the Alamitos drop structure, Branham Lane, stream gage Station No. 23B, and at Montague Expressway (Tables F-C.4, F-C.5, F-C.6, and F-C.9, respectively). Temperature data for March are not available for monitoring stations at Interstate-880 and the Guadalupe River-Los Gatos Creek confluence (Tables F-C.7 and F-C.8). Unacceptable temperatures for steelhead smolts occurred 50 to 73 percent of the time from April through June at all stations (Tables F-C.4 through F-C.9).

Chinook Salmon. In fall (i.e., September through December), water temperatures at all 6 monitoring stations indicate that suboptimal or optimal conditions for pre-spawning adult chinook salmon were present nearly 100-percent of the time (Tables F-C.10 through F-C.15). Although data were not collected during December at the Alamitos Drop Structure (Table F-C.10) or Guadalupe River-Los Gatos Creek confluence (Table F-C.13), prespawning conditions were likely within the optimal or suboptimal range for chinook salmon because water temperatures are typically cooler in December than they are in the previous months (e.g., September through November).

Water temperature was lethal for eggs from 80-percent to almost 100-percent of the time at all sites in October and from less than 10-percent to 100-percent of the time in November (Tables F-C.10 through F-C.15). December data are not available at 3 of the sites (i.e., at the Alamitos drop structure, Branham Lane, and the Guadalupe River-Los Gatos Creek confluence); however, mostly optimal and suboptimal conditions for eggs were present in December with the exception of Montague Expressway (Table F-C.10). By January, water temperature was mostly optimal at all sites for chinook salmon eggs (Tables F-C.10 through F-C.15).

Mostly optimal or suboptimal water temperatures for juvenile chinook salmon rearing were present at all sites during February through June (Tables F-C.10 through F-C.15). Peak temperatures in April, May, and June at the Alamitos Drop Structure and Montague Expressway reached levels considered lethal for juvenile chinook salmon 0-percent to 30-percent of the time for all monitoring sites. The Guadalupe River-Los Gatos Creek confluence monitoring site was the only location were water temperature did not exceed the threshold for juvenile chinook salmon (Table F-C.13).

Figures 4.14-2b and 4.14-2c present a summary of water temperature suitability for steelhead and chinook salmon, respectively, based on measured water temperatures for Alamitos, Arroyo Calero, and Guadalupe Creeks, and the Guadalupe River.

Page 4.14-39: The following is inserted after the third paragraph and before "Construction Impacts":

Thermal Impacts

Methods. Water temperatures in the Guadalupe River are critical to the survival and perpetuation of chinook salmon and steelhead. Because construction of the Preferred Project would remove riparian vegetation, thereby affecting thermal conditions for anadromous fish in the river, an analysis of potential thermal effects was conducted (Appendix F-D). Water temperature was simulated with the JSATEMP model. See report titled "Water Temperature Analysis for the Upper Guadalupe River Flood Control Project" (Jones & Stokes Associates, 1998) for additional information. The thermal analysis includes an analysis of temperatures in the project area, Reaches 6-13 (thermal segments 18-29) as well as cumulative temperature effects to the area downstream of the Upper project area from the downstream end of Reach 6 to Trimble Road (thermal segments 30-39). Cumulative effects are discussed in Chapter 5. See Appendix F-D (Figure F-D-1) for diagram of temperature model segments.

To analyze temperature effects, water temperatures were simulated for two year types, a dry/median year and a wet year. These two year types were chosen to account for the range of conditions that may occur in the Guadalupe River. 1995 flows were used to simulate the wet year. Relatively low flow values for November through April were used to simulate the dry/median year. For May through September, median flow values were used for the dry/median year because a flow of 0 cfs would have been required to represent dry years. Locations affected by the 1-cfs rule described in the MOU between SCVWD and DFG (California Department of Fish and Game 1997) had flow values set at 1 cfs if the dry or median flows were less than 1 cfs. Meteorological conditions used in the thermal analysis were based on 1994 and 1995 hourly data measured at the California Irrigation Management Information System (CIMIS) station in San Jose.

The temperature model was used to simulate temperatures under baseline, post-project, and post-mitigation conditions. Baseline conditions assumed that the Downtown project is constructed, but not the Upper project (see Appendix F-D;

Figures F-D-2 and F-D-3). Because the Downtown project does not affect the Upper project area, baseline temperatures in the Upper project area represent pre-project conditions (i.e., conditions prior to construction of both projects). Post-project conditions were chosen to represent conditions when temperatures are expected to be the highest. Post-mitigation conditions represent conditions once mitigation vegetation has had a chance to attain full size. The model was used to simulate temperatures under the Preferred Project and two versions of the Minimized Vegetation Impacts (MVI) Alternative. The simulations assumed a 25-year construction schedule and an accelerated construction schedule. Because mitigation plantings are expected to attain full growth after 40 years, post-mitigation conditions are expected to be fully attained throughout the project area at year 65 with the 25-year construction schedule and at year 46 with the accelerated (6-year) construction schedule.

Preferred Project. For the Preferred Project, it was assumed that project construction would span a period of 25 years and that the highest temperatures would be expected to occur shortly after construction in the reaches with the greatest loss of vegetation and at a time when most of the project construction has been completed. To capture the range of expected worst-case conditions, temperatures were simulated at two phases during the construction period: 1) at year 12 following construction of Reach 9, and 2) at year 25 after Reach 11 construction is completed. Although year 25 represents when project construction is complete, year 12 actually represents when temperature impacts are at their greatest. Because vegetation losses are greatest in Reach 9 and mitigation plantings in Reaches 10B and 12 have had less time to become effective at reducing temperatures than they do at year 25, post-project year 12 represents worst-case conditions.

Preferred Project Assuming Accelerated Construction Schedule. The District expects that funding constraints may mean that the overall construction schedule is spread out over approximately 25 years. If Federal funding or other funding becomes available, the District anticipates that the project could be constructed on an accelerated schedule. Under the accelerated schedule alternative, the Preferred Project construction time is expected to be reduced to approximately 6 years instead of 25. This construction scenario represents the amount of time that it would take to implement the Preferred Project assuming that federal funding is available. For the thermal analysis of the accelerated schedule, worst-case conditions were simulated by assuming that the entire project was constructed in one summer.

Minimize Vegetation Impacts (MVI) Suboptions. The thermal analysis of two MVI suboptions was identical to the analysis performed for the Preferred Project scenario for all reaches except for 9 and 10A. Under one MVI suboptions, construction of a flood bypass channel in Reaches 9 and 10A was assumed and, for the other MVI suboption, the flood bypass channel was assumed to be in Reach 10A only. The MVI suboptions were analyzed assuming both a 25-year construction schedule and an accelerated construction schedule.

Thermal effects were evaluated for the juvenile steelhead rearing and smoltification periods. Adult steelhead and eggs and larvae would be present in the affected reaches during periods when water temperature conditions are relatively unchanged by project actions (see previous discussions of species life-history timing). Thermal effects are also evaluated for chinook salmon prespawning adults and for egg incubation. Juvenile chinook salmon are present in the Guadalupe River primarily during periods when water temperature is minimally affected by project actions (i.e., late winter and early spring).

The estimate of temperature effects was performed by a general examination of the timing and magnitude of the estimated changes in temperatures. Additionally, simulated baseline, post-project, and post-mitigation temperatures were evaluated against published thermal criteria for steelhead and chinook salmon (see Table 4.14-1a). The temperatures used in the evaluation were the monthly average maximum temperatures (i.e., average of the daily maximums), as described by the Habitat Suitability Index (HSI) models for rainbow trout (Raleigh et al. 1984) and chinook salmon (Raleigh et al. 1986).

Results of Thermal Analysis-Preferred Project. The prediction that water temperature will exceed a threshold does not necessarily mean that water temperature throughout the model segment is above that threshold. Actual water temperatures within a segment vary locally. Furthermore, fish such as juvenile steelhead have the ability to seek out lower water temperature (if available) and avoid unacceptable water temperatures. Thermal thresholds referenced in this report are based on published laboratory studies where water temperature was held constant. In reality, actual water temperatures typically fluctuate on a daily basis (i.e., diurnally); therefore, small increases in a predicted temperature that cause a thermal threshold to be crossed in a specific reach indicate potential effects on fish, but should not be interpreted as causing an entire fish population to be eliminated from that reach. Instead, the use of thermal thresholds for determining fisheries effects should be used in combination with the estimated temperature increases as a guide to indicate when and where temperature problems may occur and to estimate the potential benefits of mitigation.

Figures 4.14-5a and 4.14-5b summarize the temperature modeling results. More detailed results are shown in the figures in Appendix F-D (Figures F-D.4 through F-D.14). Figure 4.14-5a shows the simulated average maximum temperatures for the whole Upper project area. The year 12 temperatures are only slightly higher than pre-project temperatures and the year 25 temperatures are almost the same as pre-project temperatures. The post-mitigation temperatures are substantially cooler than pre-project temperatures. Figure 4.14-5b shows segment by segment variation in estimated thermal effects. August was chosen because it is often when water temperatures are the highest and the effects of the project on average maximum water temperature are greatest.

The simulated increases in water temperature associated with the Preferred Project are relatively small and are not expected to cause significant impacts to chinook salmon and steelhead. The following discussion presents a description of thermal effects for steelhead and chinook salmon. Thermal effects were evaluated for the steelhead rearing and smoltification periods and the chinook salmon prespawning and incubation periods. Steelhead adults, eggs, and larvae and juvenile chinook salmon would be present in the affected reaches primarily during periods when water temperature conditions are minimally affected by Preferred Project actions.

Steelhead-Juvenile Rearing. Under pre-project conditions, optimal conditions for juvenile rearing (64.4°F) are substantially exceeded during summer (Figure 4.14-5a). Pre-project conditions in the lower project reaches (i.e., Reaches 6-10A) are marginal at best for juvenile steelhead rearing, and those upstream (i.e., Reaches 10B-13) exceed the thermal maximum (77°F) for juvenile steelhead (Figure 4.14-5b).

Under post-project conditions, average maximum water temperature would increase in reaches 6-10A and 10C; however, the simulated increases are small. For example, the largest change in simulated average maximum temperatures is 2.2°F in thermal segment 26 during June of the dry/median flow year. Average temperatures would be minimally affected (Figures F-D.4 through F-D.14). The availability of habitat would not be substantially reduced for rearing juveniles because the temperature increases are small and simulated post-project water temperatures in the affected reaches generally do not exceed the thermal threshold for rearing juveniles.

The simulated temperature increases cause average maximum temperatures to exceed the thermal maximum limit of 77°F for juvenile steelhead in only one location, Reach 10C (thermal segment 23) (Figure F-D.8). Part of the reason for the increase in Reach 10C temperatures (and the only reason for the increase at year 12) is the relocation of the flow measurement weir from the downstream end of Reach 10C to the downstream end of Reach 10B. (The new shallower channel produces higher maximum temperatures). Eventually, after the vegetation plantings begin to provide shade, the movement of this weir should help to improve the habitat quality for juvenile steelhead in Reach 10C by creating a shaded and flowing section of stream.

Under post-mitigation conditions, average maximum water temperature would decrease in each of the project reaches. This decrease would range from a minimal amount in Reach 13 (no mitigation is planned for the area upstream of the Alamitos Drop Structure [thermal segment 18]) to 7.6° F in Reach 10B (thermal segment 24) during August (Figure 4.14-5b). This decrease in summer water temperatures could improve conditions for rearing juvenile steelhead in Reaches 6-10C (Figure 4.14-5b).

Steelhead-Smoltification. Under pre-project conditions, average maximum water temperature exceeds the thermal limit for optimal conditions (59.9°F) by March or April in thermal segments 19-24 (Figures F-D.4 through F-D.9) and by May in thermal segments 25-29 (Figures F-D.10 through F-D.14). By May or June, the absolute thermal limit for smolts (66.2°F) is exceeded at all locations (Figures F-D.4 through F-D.14).

Under post-project, simulated changes in average maximum temperatures during the March to June smoltification period vary from a decrease of 1.5°F for May in Segment 24 to an increase of 2.2°F for June in segment 26 (during the dry/median year). Increases in average maximum water temperatures would potentially shift suitable conditions for smoltification to 1 month earlier in Reaches 7, 8, and 9 (thermal segments 26 and 27) (Figures F-D-11 and F-D-12). The change in simulated temperatures responsible for this shift push the temperatures only 0.1°F and 0.2°F over the 66.2°F threshold for thermal segments 26 and 27, respectively. Overall, increased water temperature in spring would make marginal pre-project conditions for smolts slightly worse in the short term; however, because the rate of smoltification is temperature dependent, juveniles may simply smolt earlier or move downstream in response to slightly warmer conditions.

Under post-mitigation conditions, average maximum water temperature would be reduced during the March to June smoltification period. This reduction in temperature could potentially extend suitable conditions for smoltification by 1 month compared to pre-project conditions in multiple segments (Figures F-D.7 and F-D.9 through F-D.13).

Chinook Salmon-Prespawning Adults. Under pre-project conditions, average maximum water temperature exceeds the optimal temperature for prespawning adults of 53.6°F during most months (Figures F-D.4 through F-D.14). Average maximum water temperature is generally close to or above the thermal maximum of 75°F in July, August, and sometimes September (Figures F-D.4 through F-D.14). During high-flow years, summer conditions are unsuitable for prespawning adults more often than during low-flow years.

Under post-project conditions, average maximum water temperature would increase by a maximum of 1.8°F to 2.2°F (during summer of the dry/median year in thermal segment 26) (Figure F-D.11). Simulated post-project temperature increases in other segments are less and cooling is expected in several model segments. Relative to pre-project conditions, the thermal maximum for prespawning adults would be exceeded in only two segments as a result of the project (Figures F-D.4 through F-D.14); simulated average maximum water temperatures slightly exceed 75°F as a result of the Preferred Project in segment 25 during August of the dry/median flow year and in segment 28 during July of the dry/median flow year. The effect of this increase is expected to be relatively small because the simulated increase in temperatures is small (0.5°F for August in thermal segment 25 and 1.6°F for July in thermal segment 28), it affects only a small portion of the project area, and the majority of adult chinook returning to the river arrive later, in fall when water temperature in less affected. By October, average maximum post-project water temperatures are almost unchanged relative to pre-project conditions (Figures F-D.10 and F-D.13).

Under post-mitigation conditions, average maximum water temperature would decrease in each of the project reaches. The largest temperature reductions are expected to occur in Reach 10B (a simulated reduction in average maximum temperature of 7.6°F during August, Figure 4.14-5b). This decrease in late-summer temperatures could benefit any chinook salmon present in the project reaches. Temperatures are predicted to fall below the 75°F temperature threshold in multiple segments. By fall, however, the beneficial effects seen under post-mitigation conditions would be minimal to nonexistent because air temperatures and storm events, rather than solar radiation, are the primary factors that determine water temperature.

Chinook Salmon-Egg Incubation. Based on water-temperature needs for developing eggs and embryos (Table 4.14-1a), pre-project average maximum water temperatures are typically too high for successful egg incubation in each of the project reaches until November or December (Figures F-D-4 through F-D-14). Exposure to high water temperature causes egg mortality and abnormal development. Water temperature from December through February, the remainder of the incubation period, is generally below the upper thermal limit (i.e., 60.8°F) and most likely supports successful incubation. Under post-project and post-mitigation conditions, water temperatures during the egg incubation period (i.e., October through February) are similar to those under pre-project conditions in the affected reaches (thermal segments 23 and 25-29) because thermal effects of the project are minimal during this time of year (Figures F-D.8 and F-D.10 through F-D.14). The largest simulated increase in average maximum temperatures under post-project conditions during November-February occurs in segment 23 at year 25 of construction. The increase is 0.7°F during November and December of the dry/median year and is well below the 60.8°F upper limit.

In one case, November of the wet year in thermal segment 27, the average maximum water temperature was predicted to increase from 60.5°F to the 60.8°F threshold. This reaching of the threshold is unlikely to have a large effect on overall chinook salmon spawning success because the predicted temperature increase is so small and only one segment is affected.

Once mitigation plantings are in place, average maximum water temperature in the Upper project will be less than pre-project average maximum water temperature. For example, average maximum water temperature in thermal segment 25 for November of the wet year is predicted to be reduced enough to cause spawning conditions to go from unsuitable to suitable.

Post-mitigation conditions under the accelerated schedule would be the same as post-mitigation conditions under the 25-year construction schedule. However, a benefit of the accelerated schedule is that the post-mitigation conditions are expected to be reached 19 years earlier (at year 46 instead of year 65).

Results of Thermal Analysis-Preferred Project Assuming Accelerated Construction Schedule. Under the accelerated construction scenario of the Preferred Project, average maximum water temperature would increase relative to pre-project conditions and water temperature would exceed year 12 worst-case temperatures for the 25 year construction scenario in most project reaches (Figure 4.14-5b). Some of the largest temperature increases associated with the accelerated schedule are expected to occur in segments 25, 26, and 28 (Figure 4.14-5b). Figures F-D.10, F-D.11, and F-D.13 present the annual pattern of water temperatures under the accelerated schedule in these thermal segments. Simulated temperatures for these three thermal segments were used to evaluate the potential temperature effects associated with changing from a 25-year construction schedule to an accelerated construction schedule.

The greatest effect of the accelerated construction schedule would occur during summer. Under this construction scenario, average maximum water temperature is expected to occasionally increase beyond the 77°F threshold for juvenile steelhead in thermal segments 25, 26, and 28 (Figures F-D.10, F-D.11, and F-D.13). These temperature increases could potentially reduce the availability of habitat for rearing juveniles.

Under the accelerated construction scenario, conditions for steelhead smolts would be slightly worse than those occurring under the 25-year construction scenario. Increases in average maximum temperature during March and April would make currently marginal conditions for smolts even worse, although the accelerated schedule does not cause simulated temperatures to cross the upper smoltification threshold of 66.2°F.

Under the accelerated construction scenario, conditions for adult (i.e., prespawning) chinook salmon that might be present during summer would be worse compared to the 25-year construction scenario. For example, the accelerated schedule causes the simulated post-project average maximum temperatures in thermal segments 25 (Reach 10A) and 26 (Reach 9) to exceed the absolute thermal maximum of 75°F for prespawning chinook salmon during the dry/median year (Figure F-D.10). These exceedences, however, only occur in the summer, when few chinook salmon are expected to be in the Upper project area.

Conditions for egg incubation for chinook salmon would also be slightly worse compared to post-project conditions under the 25-year construction scenario. Although the project is expected to cause essentially no change in temperature during the months of December through February (the later part of the egg incubation period), the project is expected to cause slight increases in temperature during October and November, the initial part of the egg incubation period. The slight additional increase in post-project average maximum temperature in October would not be expected to adversely affect chinook salmon eggs since pre-project average maximum and average temperatures are already too warm for egg survival (Figures F-D.10, F-D.11, and F-D.13). In one instance (thermal segment 26 for November of the wet year), the accelerated schedule caused simulated temperatures for the Preferred Project to cross the upper egg incubation threshold of 60.8°F (Figure F-D.11). The temperature change associated with this threshold crossing is small (0.8°F) and would have minimal effect on incubation.

Post-mitigation conditions under the accelerated schedule would be the same as post-mitigation conditions under the 25-year construction schedule. However, a benefit of the accelerated schedule is that the post-mitigation conditions are expected to be reached 19 years earlier (at year 46 instead of year 65).

Results of Thermal Analysis-Minimize Vegetation Impacts Suboptions. Table 4.14-4a shows the range of temperature effects that are expected from the two MVI suboptions. Because the MVI suboptions help to protect existing vegetation, the largest temperature differences between the MVI suboptions and the Preferred Project are expected to occur immediately after project construction under the accelerated schedule. However, by the time that mitigation plantings have attained full growth, temperatures under the MVI suboptions are expected to be almost the same as temperatures under the Preferred Project (Table 4.14-4a).

Simulated temperatures under the MVI suboptions are slightly lower and, therefore, slightly better for chinook salmon and steelhead. In some cases, the benefits of the MVI suboptions may cause temperatures to fall below thermal thresholds for fish if temperatures are close to the thresholds. For instance, under the accelerated schedule, simulated average maximum temperatures for Reaches 9-10 exceed 77°F under the Preferred Project scenario (the maximum tolerance level for juvenile steelhead) during June of the dry/median year, whereas pre-project temperatures and temperatures under both MVI suboptions were simulated to be less than 77°F (Table 4.14-4a).

Conclusions of Thermal Analysis. Temperature increases associated with the Preferred Project are expected to be relatively small and cause less-than-significant effects on steelhead and chinook salmon within the project area. Simulated temperature increases under the accelerated schedule are greater than those simulated for the 25-year construction schedule and could potentially cause temporary impacts on juvenile steelhead because of high water temperatures during summer, although these impacts would be mitigated over the long-term by the relatively large cooling effect expected under post-mitigation conditions. The potential effects associated with the accelerated schedule would need to be addressed by the Corps if federal funding were to become available. If the Preferred Project were constructed with elements of the MVI in reaches 9 and 10a, post-project temperatures in and downstream of these reaches would be reduced compared to expected post-project conditions under the Preferred Project.

Preferred Project. Under pre-project conditions, habitat in the project area for prespawning chinook salmon is marginal to unsuitable during summer. The predicted increase in water temperature under the Preferred Project would only slightly worsen conditions for chinook salmon and may not affect overall chinook salmon production in the river because the increase is so small and only a fraction, if any, of the total chinook salmon spawning run is present in this reach of the Guadalupe River during summer. Simulated temperatures during fall are more suitable for prespawning chinook salmon regardless of whether the Preferred Project has been constructed (Figures F-D.4 through F-D.14). Post-mitigation conditions are expected to benefit prespawning adult chinook salmon because water temperature is expected to be lower, compared to pre-project conditions.

Pre-project fall water temperatures generally remain too high for egg incubation until November. By November, post-project water temperatures would be about the same as under pre-project conditions because air temperatures and storm events, rather than solar radiation, are the primary determining factors (Figure 4.14-5a). Therefore, implementation of the Preferred Project is expected to have little effect on spawning conditions for chinook salmon. Once mitigation vegetation has grown, incubation temperature conditions are expected to be better than under pre-project conditions.

The greatest increase in water temperatures under the Preferred Project would occur in summer. Pre-project conditions in the lower project reaches (i.e., Reaches 6-10A) are marginal at best for juvenile steelhead rearing, and those upstream (i.e., Reaches 10B-13) exceed the thermal maximum for juvenile steelhead. The Preferred Project would cause water temperatures to increase slightly in the lower reaches (i.e., Reaches 6-10A and 10C) over the short term. The simulated temperature increases cause average maximum temperatures to exceed the thermal maximum limit of 77°F for juveniles in only one location, Reach 10C (thermal segment 23) (Figure F-D.8). Under post-mitigation conditions, the decrease in summer water temperatures could improve conditions for rearing juvenile steelhead in Reaches 6-10C (Figure 4.14-5b).

Predicted temperature increases in spring resulting from the Preferred Project would slightly reduce the window for juvenile steelhead to complete their smoltification process in Reaches 7, 8, and 9 (thermal segments 26 and 27); however, the rate of smoltification is temperature dependent and juveniles may simply smolt earlier or move downstream in response to the changing conditions.

Under post-mitigation conditions, water temperatures in Reaches 6-13 would be lower than under pre-project conditions for all areas except the upper part of Reach 13 (thermal segment 18), where temperatures are unaffected by the project and its mitigation. As a result, thermal effects would be limited to the period following project construction before reestablished vegetation (i.e., mitigation actions) begins to shade the river. This overall reduction in average maximum water temperature could potentially improve conditions in the project area over the long term for salmonids, particularly for steelhead smolts and rearing juveniles. The simulated temperature reductions under post-mitigation conditions are greater than the temperature increases under post-project conditions.

Because the temperature increases associated with the Preferred Project would be relatively minor and would occur over the short term following project construction, the project would not likely cause significant impacts on chinook salmon and steelhead. Furthermore, the expected reduction in water temperature under post-mitigation conditions may actually be beneficial to these anadromous species over the long term because post-mitigation water temperatures are expected to be lower than pre-project water temperatures.

Temperature increases associated with the Preferred Project are expected to be relatively small and cause less-than-significant effects on steelhead and chinook salmon within the project area. The temporary reduction in habitat quality that may occur under post-project conditions as a result of anticipated increases in water temperature in combination with temporal habitat losses associated with construction (e.g., reduction in habitat diversity and complexity) would be mitigated by project actions that would result in improving access to upstream habitats (see Mitigation Measure F-2 below).

Preferred Project Assuming Accelerated Construction Schedule. Under the accelerated schedule scenario, average maximum temperatures would exceed year 12 worst-case temperatures for the 25-year construction alternative in most project reaches. The effect of this increase was evaluated for thermal segments 25, 26, and 28, the thermal segments most affected by the accelerated schedule. Temperatures associated with the accelerated schedule were compared to temperatures simulated for the 25-year schedule.

The predicted increase in water temperature for the Preferred Project (with an accelerated schedule) would make conditions for prespawning adult chinook salmon during summer slightly worse than would occur under the 25-year construction scenario. As with the 25-year construction scenario, this may not have a significant effect on overall chinook salmon production in the river because only a fraction, if any, of the total chinook salmon spawning run is present in Reaches 6-13 of the Guadalupe River during summer.

Compared to the 25-year construction schedule, water temperature conditions for chinook salmon spawning (i.e., egg incubation) under the accelerated schedule would be slightly worse during the egg incubation period (i.e., October through February). This effect is expected to be minimal because pre-project temperatures for October are too high for egg incubation and temperature increases for November-February are expected to be small.

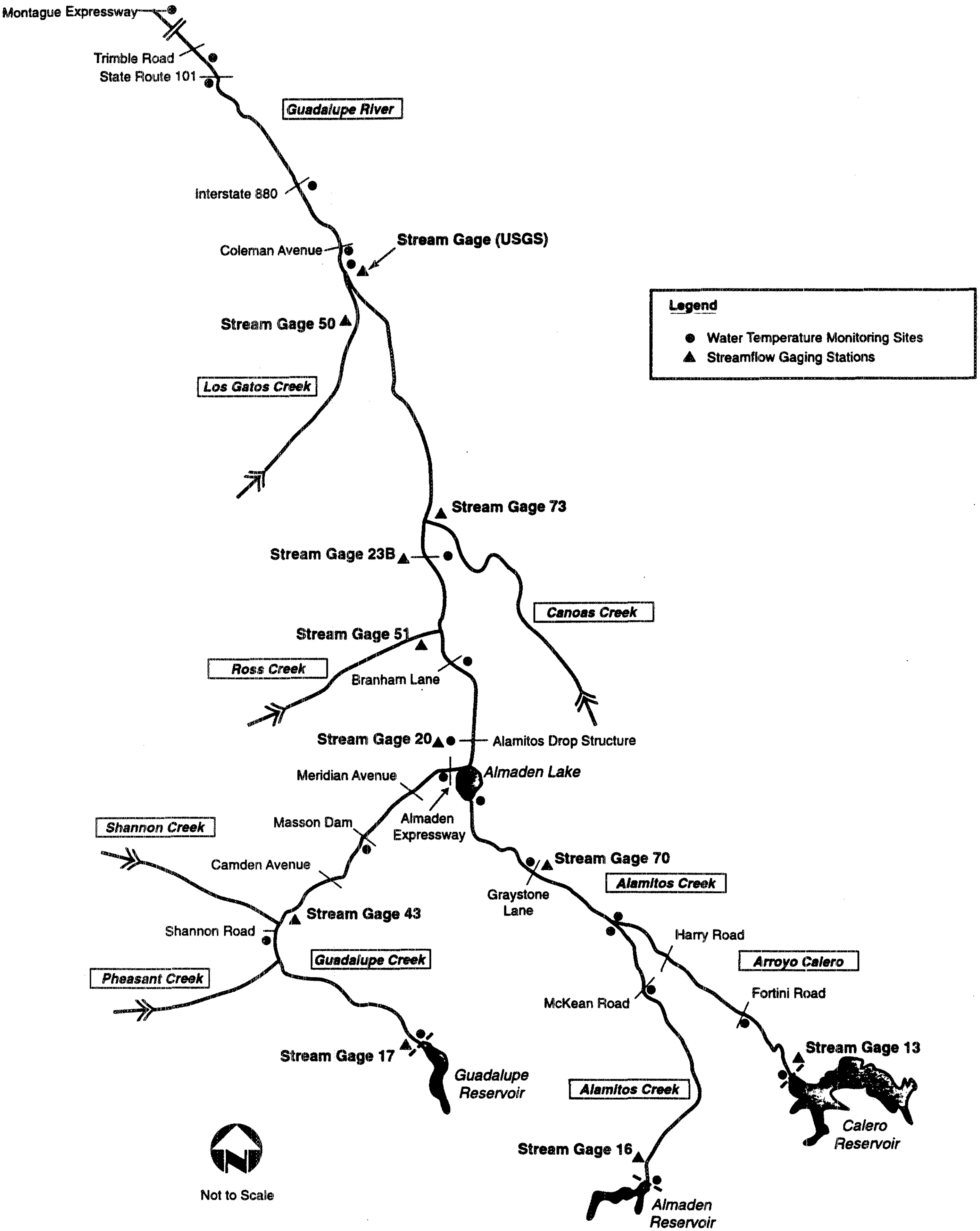
Under the accelerated construction scenario, conditions for steelhead smolts would be slightly worse than those occurring under the 25-year construction scenario. For example, increases in average maximum temperature during March and April would make currently marginal conditions for smolts even worse, although the accelerated schedule does not cause simulated average maximum water temperatures to cross the upper smoltification threshold of 66.2°F.

Compared to the 25-year construction schedule, temperature increases in summer under the accelerated construction schedule are expected to cause temperatures to exceed the thermal maximum limit of 77 F for juvenile steelhead in thermal segments 25 (Reach 10A), 26 (Reach 9), and 28 (Reach 7). The availability of habitat for rearing juvenile steelhead would be temporarily reduced in these reaches because of increased water temperature.

The increase in water temperature associated with construction of the Preferred Project under an accelerated construction schedule would be significant because the availability of habitat for rearing juvenile steelhead may be reduced in several of the thermal segments and because the unsuitable conditions may occur simultaneously in these segments. This impact, however, would be compensated by the cooling expected under post-mitigation conditions. Post-mitigation conditions would not be affected by whether or not the project were constructed in 6 years. However, the benefits resulting from mitigation would be achieved about 19 years sooner under an accelerated construction schedule, than if the Preferred Project were constructed over a 25-year period. If federal funding becomes available and construction is accelerated, the Corps will address potential impacts prior to construction.

Minimize Vegetation Impacts Suboptions. Under the 25-year construction scenario, average maximum post-project water temperatures for the MVI Suboptions would not increase as much as average maximum post-project water temperatures for the Preferred Project. As with the Preferred Project scenario (25-year construction), increases in temperature associated with the MVI suboptions are considered less than significant, and no mitigation is required.

Under the accelerated (6-year) construction schedule, average maximum post-project water temperatures for both suboptions of the MVI Alternative would increase less than average maximum post-project water temperatures for the Preferred Project (i.e., accelerated construction scenario with no bypasses in reaches 9 and 10A); however, simulated summer temperatures still exceed the thermal maximum limit for rearing juvenile steelhead (i.e., 77 F) in multiple thermal segments. Consequently, impacts of the MVI suboptions would be similar to those expected for the Preferred Project with no MVI elements under an accelerated construction schedule. As with the Preferred Project under an accelerated schedule, an accelerated schedule for the MVI suboptions would allow the cooling effect of the post-mitigation condition to occur sooner.



Jones & Stokes Associates, Inc.

Figure 4.14-2a
Streamflow and Water Temperature Monitoring Locations on Alamitos, Arroyo Calero, and Guadalupe Creeks

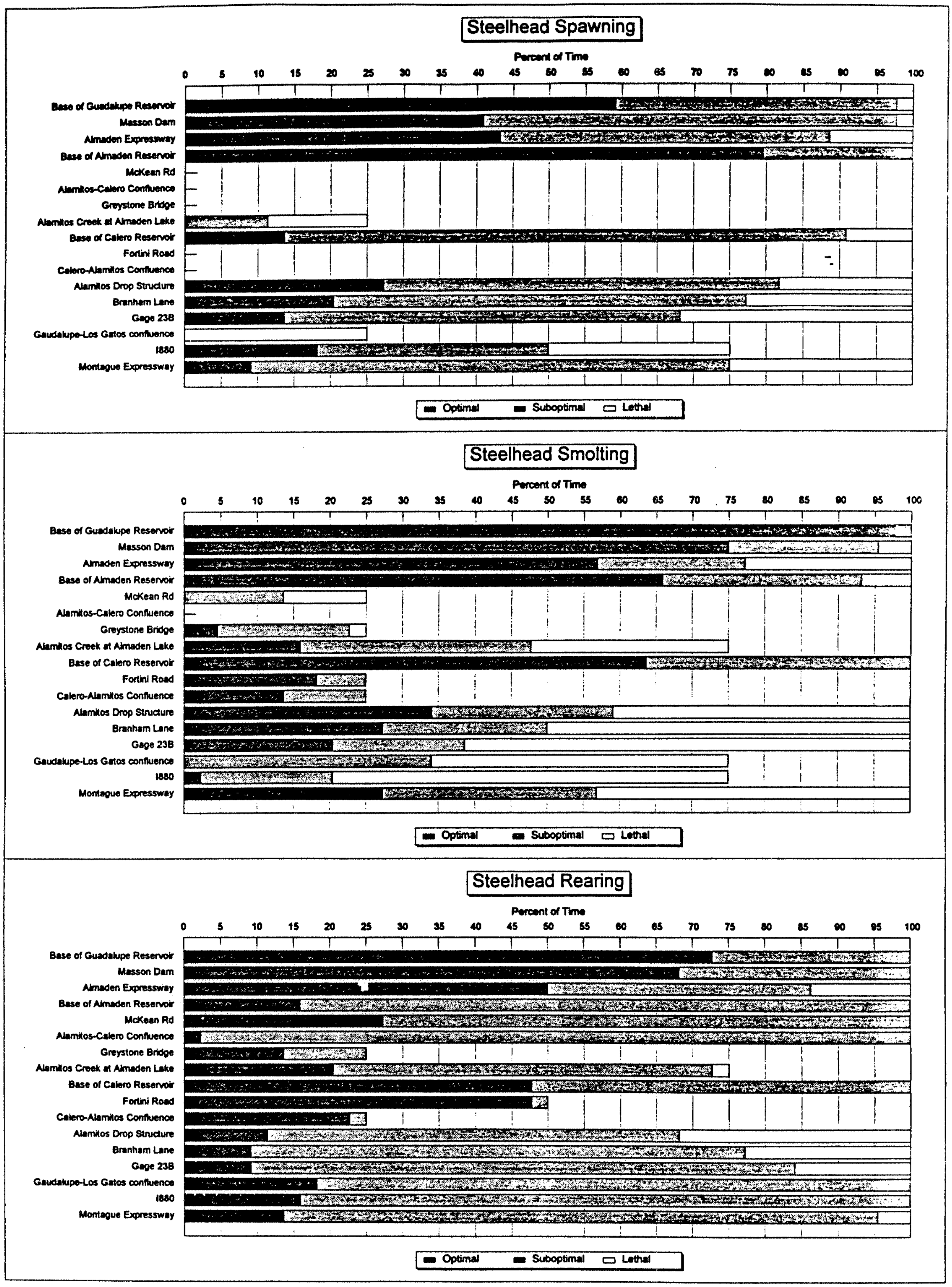


Figure 4-14-2b. Summary of Water Temperature Suitability for Key Steelhead Life Stages during Months Important to Life History, based on Measured Water Temperatures for Alamitos, Arroyo Calero, and Guadalupe Creeks, and the Guadalupe River.

Note: Incomplete bars represent missing data

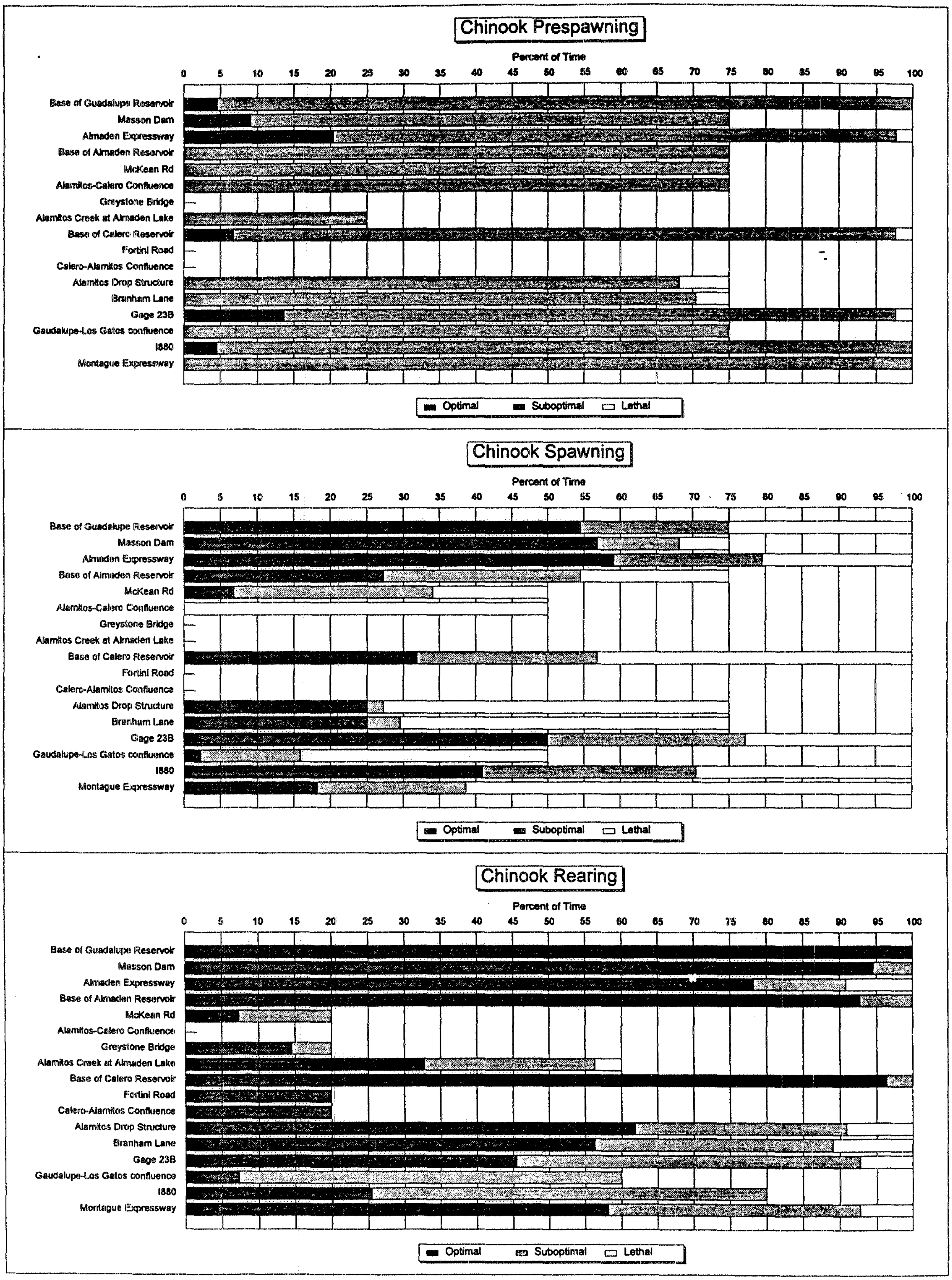


Figure 4-14-2c. Summary of Water Temperature Suitability for Key Chinook Salmon Life Stages during Months Important to Life History, based on Measured Water Temperatures for Alamitos, Arroyo Calero, and Guadalupe Creeks, and the Guadalupe River.

Note: Incomplete bars represent missing data

Table 4.14-4a. Largest[1] and Smallest[2] Simulated Temperature Effects Associated with the MVI Alternatives for Average Maximum Temperatures in Reachs 9-10.

Year	Month	Pre-Project (°F)	Preferred Project Post-Project Accelerated (YR 0) (°F)	Change in Post-Project Temperatures		Preferred Project Post-Mitigation (°F)	Change in Post-Mitigation Temperatures	
				MVI in 9 and 10A (°F)	MVI 10A (°F)		MVI in 9 and 10A (°F)	MVI in 10A (°F)
Hypothetical Low Flow Year	Jan	53.5	54.0	-0.1	-0.1	53.6	-0.0	-0.0
	Feb	55.3	55.6	-0.1	-0.0	55.3	-0.0	-0.0
	Mar	63.9	64.9	-0.5	-0.2	61.9	0.0	0.0
	Apr	64.7	66.5	-1.1	-0.3	61.7	0.1	0.1
	May	69.0	70.5	-1.1	-0.3	66.0	0.1	0.1
	Jun	75.2	77.2	-1.3	-0.4	72.0	0.1	0.1
	Jul	76.6	78.5	-1.3	-0.4	73.4	0.1	0.1
	Aug	77.2	79.2	-1.3	-0.4	74.0	0.1	0.1
	Sep	73.7	75.5	-1.2	-0.4	70.8	0.1	0.1
	Oct	65.6	67.0	-0.8	-0.3	63.5	0.0	0.1
	Nov	55.5	56.0	-0.2	-0.1	55.5	-0.1	-0.0
	Dec	52.9	53.6	-0.1	-0.1	53.2	-0.0	-0.0
1995	Jan	56.8	56.8	-0.0	-0.0	56.8	-0.0	-0.0
	Feb	59.5	59.6	-0.0	-0.0	59.4	0.0	0.0
	Mar	59.5	59.6	-0.0	-0.0	59.4	0.0	0.0
	Apr	63.9	64.0	-0.0	0.0	62.9	0.0	0.0
	May	67.6	67.9	-0.1	0.0	66.1	0.0	0.0
	Jun	72.6	73.5	-0.2	-0.0	70.9	0.1	0.1
	Jul	78.0	79.2	-0.5	-0.1	75.9	0.1	0.1
	Aug	76.7	78.0	-0.6	-0.2	74.4	0.0	0.1
	Sep	73.6	74.7	-0.6	-0.2	71.3	0.0	0.1
	Oct	67.1	67.9	-0.3	-0.1	65.4	0.0	0.0
	Nov	61.8	62.4	-0.2	-0.1	60.8	-0.0	0.0
	Dec	57.0	57.3	-0.0	-0.0	57.1	-0.0	-0.0

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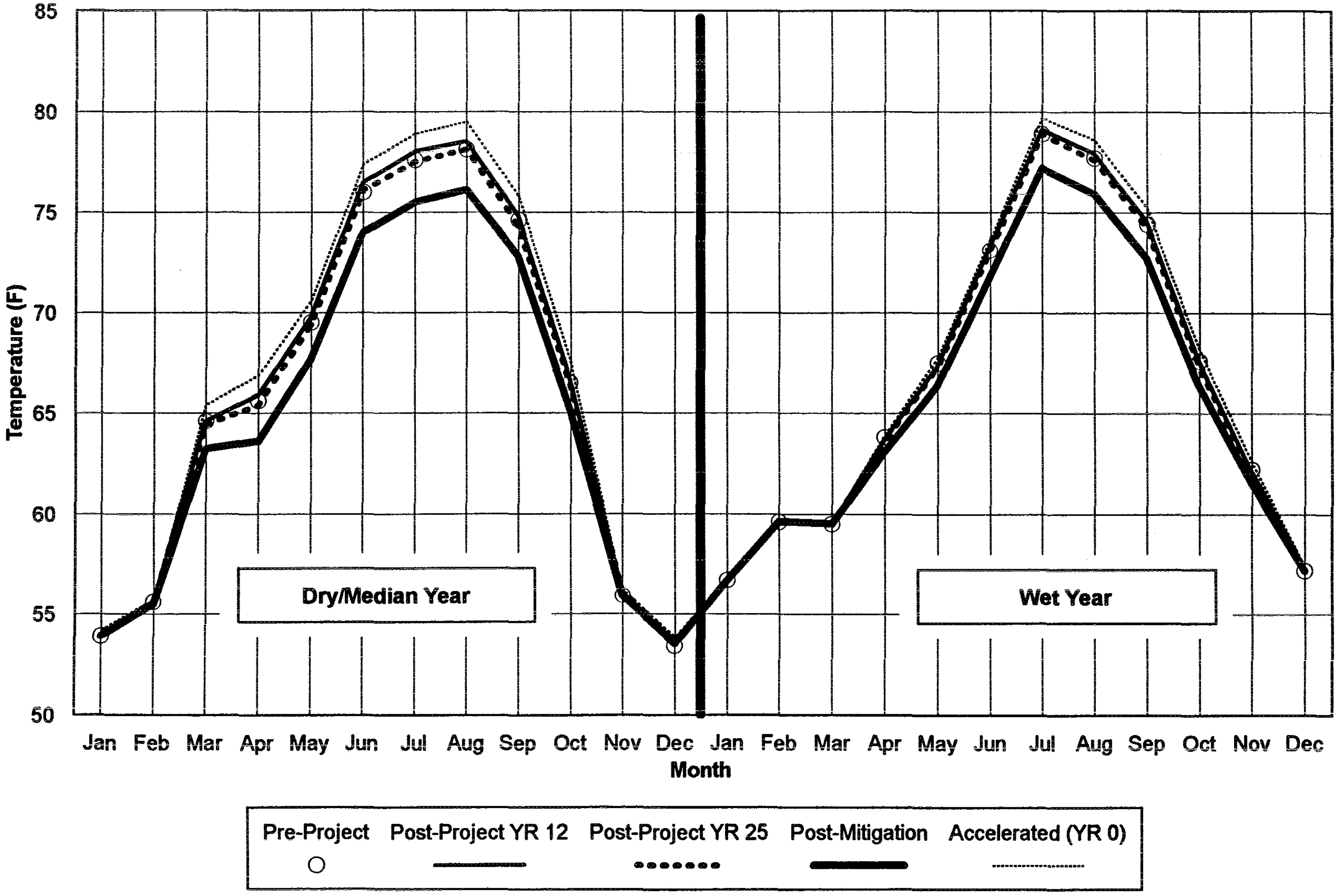
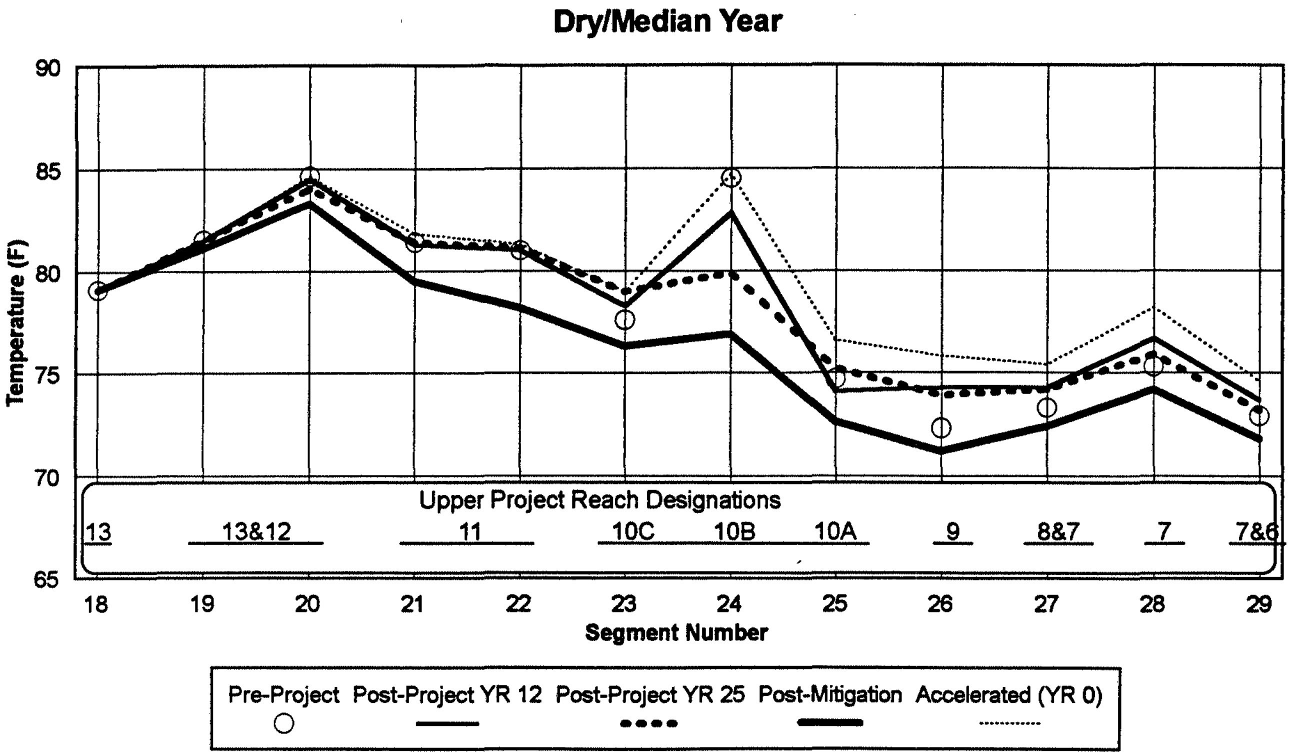
[1] MVI with accelerated schedule compared to Preferred Project with accelerated schedule

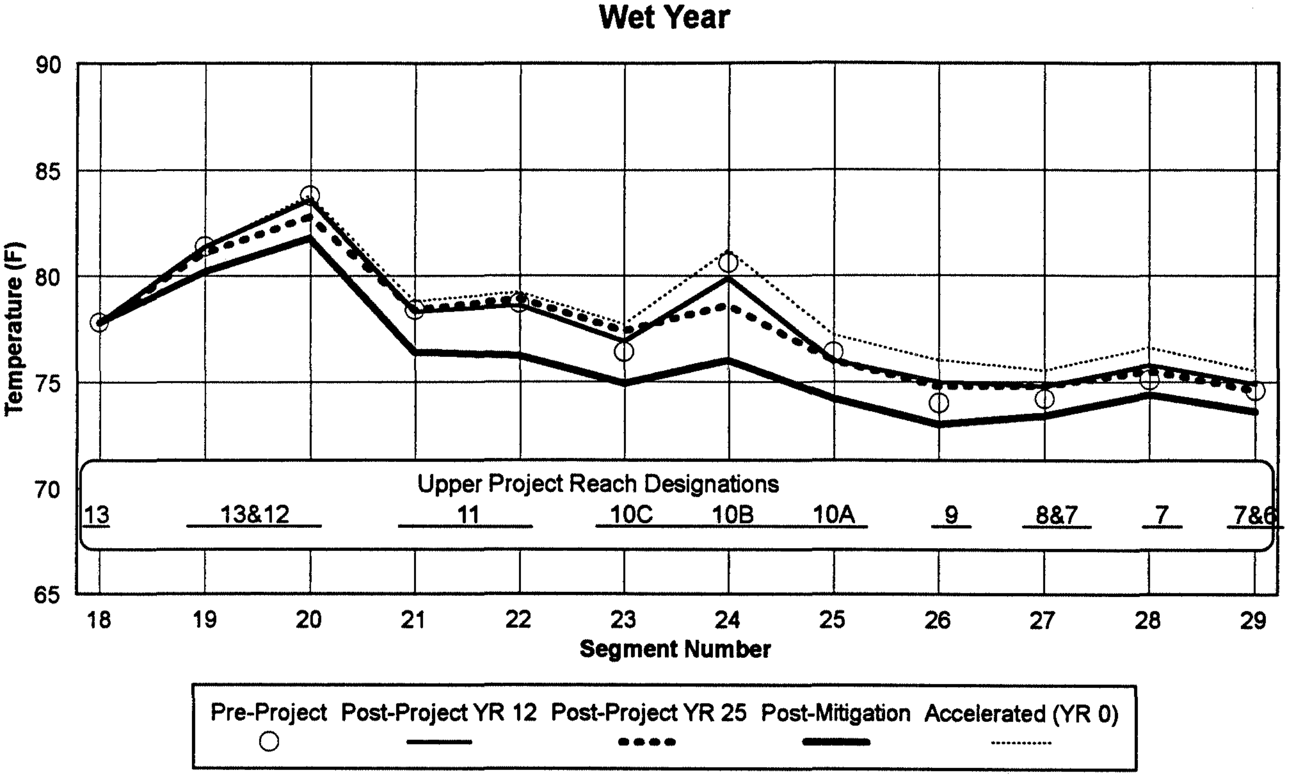
[2] MVI under post-mitigation conditions compared to Preferred Project under post-mitigation conditions.

Figure 4.14-5a. Annual Pattern of Weighted Average Maximum Temperatures in the Upper Project Segments for the Dry/Median and Wet Years





Dry/Median Year



Wet Year

Figure 4.14-5b. Pre-Project, Post-Project, and Post-Mitigation Average Maximum Temperatures for Upper Project Scenarios During August of the Dry/Median and Wet Years

MASTER RESPONSE I
THE DIFFERENCE BETWEEN THIS STUDY AND THE CORPS FEASIBILITY STUDY

Some comments expressed confusion between the District's preferred Project and the Corps of Engineers Feasibility Study for the Upper Guadalupe River.

Recognizing that the cost of this project is beyond local capabilities, the Santa Clara Valley Water District (SCVWD) has requested assistance from the Corps of Engineers (Corps) in providing flood protection in the vicinity of the upper Guadalupe River. To provide Federal assistance, the Corps must first conduct appropriate studies to justify the federal investment. Because Federal funding may not be timely and is never certain, the SCVWD has moved forward with their own studies and design of a project. Therefore, there are two studies being conducted for the same purpose — the Federal study (Corps & SCVWD), and the local study (SCVWD).

The SCVWD's Guadalupe River Flood Control Project proposes the following: flood control improvements on the upper Guadalupe River from I-280 upstream (southward) to Blossom Hill Road and on Ross Creek and Canoas Creek to a 100-year level of protection. Improvements to Ross Creek and Canoas Creek are to mitigate for backwater effects that would be caused by the Guadalupe River improvements.

The Corps has investigated several different alternatives for providing flood protection in order to optimize the economics of the project. The Corps has included a modified version of the SCVWD's plan as one of several alternatives under investigation. This plan is called the Bypass Channel Plan. It differs from the SCVWD's plan only in that it does not include any improvement features between I-280 and the Southern Pacific Railroad near Willow Street, nor any features upstream (south) of Blossom Hill Road. These areas were excluded from the Federal studies because they were unlikely to be economically justified under Federal criteria.

MASTER RESPONSE J
FISHERIES RESOURCES OF UPSTREAM TRIBUTARIES

Several commenters asked for more information about the fisheries resources of upstream tributaries and the ability of the tributaries to support salmonids.

Page 4.14-22: The text under the header "Upstream Tributaries" is modified as follows:

> ~~**Upstream Tributaries.** Habitat on the upstream tributaries (i.e., Alamitos, Calero, and Guadalupe Creeks) is considered to be relatively good, based on surveys conducted by the Service (White 1991). Pool and spawning riffle habitats are present in adequate proportions on each of the three creeks. Suitable spawning gravels (i.e., quantities of loose gravels) occur on Guadalupe Creek upstream of the District's percolation ponds (which are adjacent to Coleman Avenue) and along most of the length of Alamitos and Calero Creeks. A substantial amount of SRA cover is present on all three tributaries. Percent stream shading is variable depending on location but appears to be highest on Guadalupe Creek (30 percent to 80 percent), followed by Alamitos Creek (40 percent to 70 percent) and Calero Creek (30 percent to 40 percent). The high degree of stream shading combined with flow releases from the upstream reservoirs in summer appears to maintain summer water temperatures below 70°F in most reaches. All three creeks have a fish species composition similar to that known to exist in the Guadalupe River, in addition to a resident population of native rainbow trout, based on fish sampling surveys conducted by USFWS and The Habitat Restoration Group (White 1991; Habitat Restoration Group 1995). USFWS has indicated that these creeks could likely support a fair to moderate, self-sustaining anadromous fishery if downstream barriers were removed or modified to restore access to these tributary streams (White 1991).~~
>
> *Fisheries Habitat — Upstream Tributaries*
>
> **Upstream Tributaries — General Characteristics.** Alamitos, Arroyo Calero, and Guadalupe Creeks are the principal tributaries to the Guadalupe River upstream of the Alamitos drop structure (Figure 4.14-2a). Alamitos and Guadalupe Creeks join to form the Guadalupe River at Almaden Lake, a former gravel quarry that is now a 50-acre lake (Figure 4.14-2a). Arroyo Calero, the largest tributary to Alamitos Creek, joins Alamitos Creek approximately 3 miles upstream of Almaden Lake. Pheasant and Shannon Creeks are the major tributaries to Guadalupe Creek downstream of Guadalupe Reservoir (Figure 4.14-2a).
>
> The District maintains and operates reservoirs on all three tributaries for water supply. The reservoirs were constructed in the 1930's. Almaden Reservoir is the smallest of the three reservoirs. It impounds Alamitos Creek and has a maximum capacity of 1,780 acre-feet (af). Guadalupe Reservoir impounds Guadalupe Creek and has a maximum capacity of 3, 723 af. Calero Reservoir is the largest of the three reservoirs (maximum capacity 10,050 af). In addition to capturing flow from Arroyo Calero Creek, Calero Reservoir receives water from San Luis Reservoir via the San Felipe

Project and also can receive water from Almaden Reservoir via the Almaden-Calero canal.

The District operates all three reservoirs to capture winter flows and later release during late-spring, summer, and early-fall for groundwater recharge in downstream percolation basins on lower reaches of the creeks, and along the Guadalupe River. The District conveys water to these percolation basins by releasing water directly to the creeks through bottom releases from the reservoirs. The District can also release water from the Almaden Valley Pipeline for distribution to Alamitos Creek, Guadalupe Creek, and other percolation facilities in the valley. As part of their water rights permit, the District is required to release all natural reservoir inflows after April or May (depending on the facility) (Aguilera 1998). In general, the reservoirs reduce peak flows during late-fall and winter as the reservoirs fill and increasing baseflows during summer when natural inflows to the reservoir and stored water are released to meet downstream beneficial uses and instream requirements. Reservoir releases, in combination with the resultant change in the flow regime, have also had an effect on water temperature downstream of the dams.

The following discussion describes existing fisheries resources and habitat conditions in Alamitos, Arroyo Calero, and Guadalupe Creeks relative to their potential to support chinook salmon and steelhead spawning and rearing.

Streamflow. Streamflow on the tributary streams below the reservoirs is monitored by the District. Stream gaging stations are located immediately downstream of each reservoir and along Alamitos and Guadalupe Creeks (Figure 4.14-2a). The stream gages immediately below the reservoirs measure and record reservoir releases and spills over the dams. The stream gage on lower Alamitos Creek, which is downstream of the confluence of Alamitos Creek and Arroyo Calero, measures and records the combined flows from these two drainages and any inflow from minor upstream tributaries. The stream gage on Guadalupe Creek is located along Hicks Road downstream of Shannon Creek. It measures flow releases and spills from Guadalupe Reservoir, Pheasant and Shannon Creeks, and other minor tributary drainages.

Streamflow is highly variable from month to month and year to year. Tables F-C.16 through F-C.18 in Appendix F-C present the frequency of flows as percentiles by month below the three reservoirs. The percentage for an average daily flow value is the percent of days over a period of record that have lower values. For example, the flow value corresponding to the 20th percentile represents the flow that is equaled or exceeded 80 percent of the time. Therefore, the 50-percentile flow represents the median (or middle) flow value for the period of record. This means that 50 percent of the flows equaled or exceeded the median flow and 50 percent of the flows equaled or were below the median flow over the period of record. The 0-percentile and 100-percentile values represent the absolute minimum and maximum flows, respectively.

Peak reservoir releases are most common from January through May, in response to peak watershed runoff and reservoir spills (Tables F-C.16 through F-C.18). Peak reservoir releases from Calero Reservoir are much lower than those from Almaden and Guadalupe Reservoirs (Table F-C.17), presumably because Calero Reservoir is the largest and its watershed is the driest.

Median reservoir releases are highest from April through September, with a peak occurring in May for Almaden Reservoir (5.8 cubic feet per second [cfs]) and Guadalupe reservoir (6.0 cfs) (Tables F-C-16 and F-C-18). Median releases below Calero Reservoir peak in August at 2.7 cfs (Table F-C.17). The higher median values occurring in spring, summer, and early fall relative to winter median flow values reflect releases made from the reservoirs as part of water management activities for groundwater recharge, riparian usage, and fish and wildlife needs.

Tables F-C.19 and F-C.20 present percentile flows for Alamitos and Guadalupe Creeks, respectively, as measured at the District's stream gaging stations. In general, the flow pattern is similar to that described for the reservoir releases, although Alamitos and Guadalupe Creek values are typically higher than the measured reservoir releases. For example, median flows peak in May for Alamitos Creek (9.3 cfs streamflow compared to 5.8 cfs reservoir release) and Guadalupe Creek (6.8 cfs streamflow compared to 6.0 cfs reservoir release) (Tables F-C.19 and F-C.20, respectively).

Although Alamitos, Arroyo Calero, and Guadalupe Creeks have perennial flows, there are periods when surface flows cease. The absence of surface flow corresponds to years where below average precipitation occurs. Tables F-C.21 through F-C.25 present the number of days in each month that zero flow occurred at the stream gaging station. During periods of zero flow, resident fish are restricted to pool habitats and other areas of the stream where surface water occurs. Prolonged periods of low surface flow reduces fish survival and growth because of increased competition for living space and food, and because of elevated water temperatures and low dissolved oxygen. Such conditions may have occurred historically during drought periods, although the frequency of intermittent surface flow is unknown. Based on measured streamflow below the dams and along Alamitos and Guadalupe Creeks, the majority of years have surface flow in the monitored stream reaches. One major exception occurs during the 1976-1977 drought, which was one of the severest on record for California.

Water Temperature. Water temperature is affected by weather; reservoir operations; flow; tributary inflow; groundwater; and physical habitat, including shading by riparian vegetation. Water temperature is a key variable that determines the suitability of fish habitat. This is especially true for chinook salmon and steelhead which have relatively narrow temperature requirements for carrying out their life history. Table 4.14-1a presents thermal requirements for key life stages of chinook salmon and steelhead based on information from the published literature (Raleigh et al. 1984, 1986).

Each life stage of chinook salmon and steelhead has different physiological responses to water temperature conditions. These responses may reflect chronic and sublethal effects, such as suppressed development rate, growth rate, or condition, or they may be acute effects resulting in the loss of equilibrium and ultimately death. The thermal tolerance of each life stage varies in response to a number of factors, including:

- The acclimation temperature
- The absolute exposure temperature
- The duration of exposure to elevated temperature
- The overall health and condition of the organisms

In late 1995, the District initiated hourly monitoring of water temperature at various stations throughout the Guadalupe River system. A total of eleven water temperature monitoring stations are present on the tributary streams (Figure 4.14-2a). Hourly water temperature is measured using electronic data loggers that are left in the creeks continuously and downloaded periodically to retrieve the water temperature data.

Percentiles of the measured hourly data are presented in Tables F-C.26 through F-C.47 by month and illustrate potential response of each species life stage for each monitoring station. Similar to the percentile tables for streamflow, these percentile tables for water temperature represent the relatively ranking of all of the measured water temperatures within each month. The full range of variation of the measured water temperatures by month is bracketed by the 0-percentile value (minimum measured temperature) and the 100-percentile value (maximum measured temperature).

Water temperature variations are a function of changes in meteorological conditions (e.g., changes in air temperature) and the effects of water management operations (e.g., reservoir releases). For example, measured water temperatures immediately below Almaden Reservoir show that the greatest within-month water temperature variation occurs in October (i.e., 57.3°F to 69.9°F), while median (i.e., 72.0°F) and maximum (i.e., 74.9°F) water temperatures peak in August (Table F-C.26).

The species and life stage water temperature needs are based on the scientific literature. These temperature requirements and their sources are listed in Table 4.14-1a. Water temperature is considered *optimal* when water temperature is not a limiting factor in determining growth and survival of the species life stage. Water temperature is considered *suboptimal* when it is a factor in determining growth and survival of the species life stage. *Lethal* temperatures are those that exceed the physiological limits of the species life stage and result in death.

Although chinook salmon and steelhead do not presently have access to the tributary streams because of downstream barriers (e.g., the Alamitos drop structure), the following discussion presents information on the suitability of the tributary streams, based on water temperature, for key life stages of chinook salmon and steelhead.

Alamitos Creek. Based on the available data, optimal and sub-optimal water temperatures for juvenile steelhead rearing were present during the monitoring period at all 5 monitoring stations (i.e., downstream of Almaden Reservoir, McKean Road, Alamitos Creek/Arroyo Calero confluence, Greystone Road, and upstream of Almaden Lake) during July through October (Tables F-C.26 through F-C.30). Although juvenile steelhead rear in freshwater year-round, the period July through October was chosen as the months to evaluate the potential for the stream to support juvenile steelhead because this is when water temperatures typically are most limiting for juvenile steelhead. Water temperatures considered lethal for juvenile steelhead were measured at only one monitoring site on Alamitos Creek (i.e., at Almaden Lake); however, these excessive water temperatures occurred only briefly (i.e., less than 10 percent of the time) (Table F-C.30). Water temperature data during November through June is less complete for most of the monitoring stations. Water temperatures for steelhead spawning (i.e., January through April) were optimal for the majority of time on Alamitos Creek near Almaden Reservoir (Table F-C.26). However, water temperatures considered lethal for steelhead spawning occurred more than one-half the time by at least April at the downstream monitoring site (i.e., immediately upstream of Almaden Lake) (Table F-C.30). It is not possible to determine from these data to what degree optimal, suboptimal, and lethal temperatures occurred in the intermediate reaches of Alamitos Creek because of the lack of water temperature measurements. For smoltification (March through June), optimal and suboptimal water temperatures were present through May and for most (i.e., 70 percent) of June in the upper reaches of the creek near Almaden Reservoir (Table F-C.26). On lower Alamitos Creek, optimal and suboptimal water temperatures for steelhead smolts occurred between 70 and 50 percent of the time during April to June (Table F-C.30).

In fall (i.e., September through November), water temperatures at all 4 monitoring stations for which data is available indicate that suboptimal conditions for pre-spawning adult chinook salmon were present (Tables F-C.31 through F-C.35). No water temperature data are available for the Greystone bridge monitoring station. Although data were not collected during December at any of the monitoring stations, prespawning conditions were likely within the optimal or suboptimal range for chinook salmon because water temperatures are typically cooler in December than they are in the previous months (e.g., September through November). Optimal and suboptimal water temperatures for chinook salmon spawning were present by November at the upper two sites (i.e., below Almaden Reservoir and at McKean

Road) (Tables F-C.31 and F-C.32, respectively). The lack of data at the downstream sites makes it impossible to draw conclusions regarding conditions for chinook salmon spawning. Mostly optimal water temperatures for juvenile chinook salmon rearing were present at all sites during February through June (Tables F-C.31 through F-C.35). Peak temperatures in May and June at the downstream monitoring site (i.e., immediately upstream of Almaden Lake) reached levels considered lethal for juvenile chinook salmon; however, these conditions occurred for less than 10 percent of the time during May and June (Table F-C.35).

Arroyo Calero. Water temperature was recorded on Arroyo Calero at the base of Calero Reservoir, Fortini Road, and the Calero-Alamitos Creek confluence. Below Calero Reservoir, optimal and suboptimal water temperatures for steelhead rearing were present during July through October (Table F-C.36). Based on the measured data, water temperatures below the reservoir peak in September (Table F-C.36). Water temperatures suitable for juvenile rearing were also present at the Fortini Road and the Calero-Alamitos Creek confluence sites during July and August, and July, respectively (Tables F-C.37 and F-C.38). No data exists for the remainder of the summer period for these two locations. Water temperature below Calero Reservoir provided mostly suboptimal conditions for steelhead spawning; peak temperatures during each of the months in the spawning period (i.e., January through April) reached levels considered lethal to embryos (Table F-C.36). No temperature data were available to determine spawning conditions for the downstream sites (Tables F-C.37 and F-C.38). Suitable and suboptimal water temperatures for steelhead smolts were present at all 3 monitoring sites (Tables F-C.36 through F-C.38). Although the data are incomplete, it is reasonable to expect that optimal and suboptimal temperatures for steelhead smolts prevailed during spring at the two downstream sites because these water temperatures were present through June when temperatures are typically warmer (Tables F-C.37 and F-C.38).

Suboptimal water temperature for pre-spawning adult chinook salmon were present below Calero Reservoir (Table F-C.39). No water temperature data exist at the other two downstream monitoring sites to determine the suitability of Arroyo Calero for pre-spawning and spawning chinook salmon. Suitable water temperatures for juvenile chinook salmon rearing were present at all three monitoring sites (Tables F-C.39 through F-C.41). Although the available data are limited to June for the two downstream sites, it is likely that suitable conditions also occurred during later winter and early spring (i.e., February through May) when water temperatures are typically cooler.

Guadalupe Creek. Water temperature on Guadalupe Creek was monitored at the base of Guadalupe Reservoir, Masson Dam, and at Almaden Expressway. Optimal and suboptimal water temperatures for steelhead rearing were present below Guadalupe Reservoir and at Masson Dam (Tables F-C.42 and F-C.43). Lethal conditions for steelhead rearing were present at Almaden Expressway approximately 30 percent of the time in July and August (Table F-C.44). Optimal and suboptimal water temperatures for steelhead spawning occurred at all three sites, although water temperatures were slightly less suitable for spawning at Almaden Expressway

(Table F-C.44). Water temperature in spring (i.e., March through June) was optimal for steelhead smolts for most of the time at the base of Guadalupe Reservoir and at Masson Dam (Tables F-C.42 and F-C.43), and was non-lethal in March and April at Almaden Expressway (Table F-C.44). By May and June, water temperatures considered unacceptable for smolts were present at Almaden Expressway approximately 40 percent of the time (Table F-C.44).

Mostly suboptimal water temperatures for pre-spawning chinook salmon were present at all three sites (Tables F-C.45 through F-C.47). In general, water temperatures were too warm for chinook salmon spawning on Guadalupe Creek until November (Tables F-C.45 and F-C.47), except for at Masson Dam where suitable and suboptimal temperatures occurred 70 percent of the time in October (Table F-C.46). Optimum water temperatures for juvenile chinook salmon rearing (i.e., February through June) were present below Guadalupe Reservoir and at Masson Dam through June (Tables F-C.45 and F-C.46) and through March at Almaden Expressway (Table F-C.47). By May and June, lethal water temperatures for juvenile chinook salmon rearing occurred 20 percent of the time (Table F-C.47).

Fisheries Resources — Upstream Tributaries

Information on historical and existing fisheries resources for Alamitos, Arroyo Calero, and Guadalupe Creeks was obtained from the scientific literature (Snyder [1895]; Skinner [1962]; Leidy [1984]); from stream surveys conducted by the Habitat Restoration Group in 1986, 1987, and 1989-1993 (the Habitat Restoration Group 1994), the U.S. Fish and Wildlife Service (White 1991), and the District (Abel 1998); and from individuals knowledgeable about fisheries resources in the tributary streams (Smith 1998).

Snyder (1895) presents one of the earliest scientific discussions on fish species present in the Guadalupe River system during the late-1800's. Based on his surveys, Sacramento sucker, California roach, rainbow trout, threespine stickleback, and prickly sculpin occurred in the drainage. Recent surveys have collected one or all of these species in Alamitos Creek, Arroyo Calero, and Guadalupe Creeks, with the exception of threespine stickleback (Table 4.14-3a).

Rainbow Trout. Alamitos, Arroyo Calero, and Guadalupe Creeks contain rainbow trout. Because these streams are above the Alamitos drop structure, these rainbow trout are considered to be resident rainbow trout, and not steelhead. Although the adults are resident fish, it is possible that anadromous traits may be expressed by some of their offspring (i.e., they undergo smoltification and emigrate to the ocean.

The presence of rainbow trout on Guadalupe Creek has been well documented. In the 1950s, DFG documented the presence of rainbow trout in Guadalupe Creek from Camden Road upstream to Guadalupe Dam, in Pheasant Creek, and in Rincon Creek (upstream of Guadalupe Reservoir) (Leidy 1984). In December 1986, the Habitat Restoration Group collected rainbow trout at three sites along Guadalupe Creek from the District's stream gage along Hicks Road to approximately 1 mile downstream of

Guadalupe Reservoir. Rainbow trout were collected from lower Guadalupe Creek upstream and downstream of Masson Dam (a small diversion dam) during sampling in the early 1990s (The Habitat Restoration Group 1994). In 1997, rainbow trout were collected during May at the District's stream gaging station along Hicks Road (Smith 1998) and immediately downstream of Masson Dam in July (Abel 1998). In general, rainbow trout in Guadalupe Creek appear to be most abundant from Guadalupe Reservoir downstream to Camden Avenue (Smith 1998).

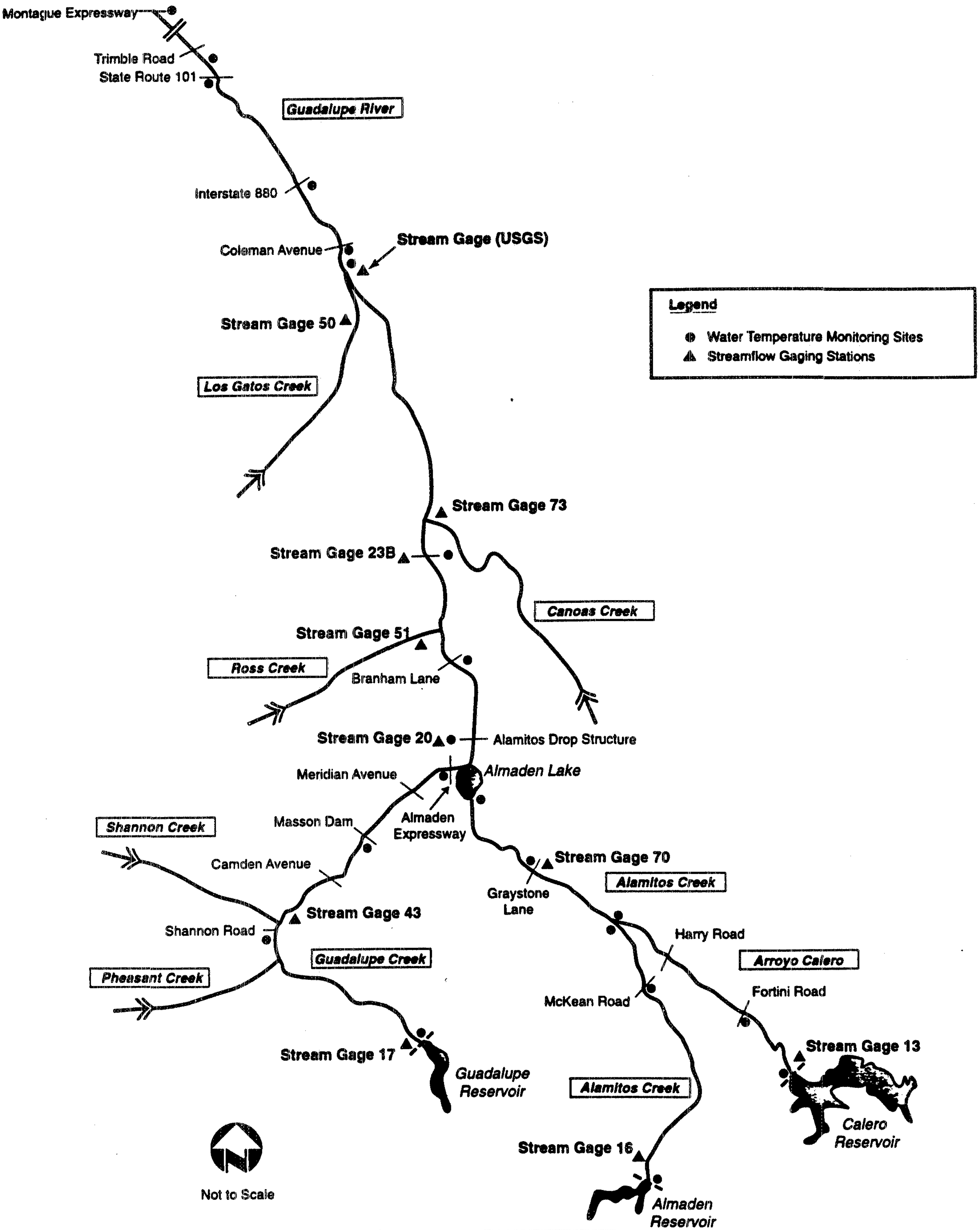
Surveys in the mid-1980s and 1997 have documented the presence of rainbow trout on both Alamitos and Arroyo Calero Creeks. Rainbow trout were collected on Alamitos Creek by the District in 1997 as part of an investigation for anticipated stream dewatering in response to critically low reservoir storage. The surveyed reach included approximately one mile of stream habitats from the Alamitos-Arroyo Calero confluence to Almaden Road, and at the McKean Road crossing (Figure 4.14-2a). Rainbow trout occupied stream habitats at 4 of the 11 stations sampled (i.e., at the first two stations near the Alamitos Creek-Arroyo Calero confluence and at the last two stations near the McKean Road crossing) (Abel 1998). Rainbow trout were most abundant on Alamitos Creek from Almaden Reservoir downstream to the confluence with Arroyo Calero, although trout are also present farther downstream (Smith 1998).

The Habitat Restoration Group collected rainbow trout on Arroyo Calero at Harry Road in 1986. In 1997, rainbow trout were collected in June, also at Harry Road (Smith 1998). While rainbow trout are present in Arroyo Calero, stream substrates are generally poorer than Alamitos Creek (Smith 1998).

TABLE 4.14-1a
TEMPERATURE REQUIREMENTS FOR THE DIFFERENT LIFE STAGES OF CHINOOK SALMON AND STEELHEAD.

Life Stage	Chinook Salmon	Steelhead
Pre-spawning adults		
optimal	46.4 - 53.6 °F	
suboptimal	53.6 - 75.2 °F	
unacceptable	> 75.2 °F	
Egg incubation		
optimal	41.0 - 57.2 °F	44.6 - 53.6 °F
suboptimal	57.2 - 60.8 °F	53.6 - 60.8 °F
lethal	> 60.8 °F	> 60.8 °F
Juvenile rearing		
optimal	53.6 - 64.4 °F	53.6 - 64.4 °F
suboptimal	64.4- 75.2 °F	64.4 - 77.0 °F
lethal	> 75.2 °F	> 77.0 °F
Juvenile emigration		
optimal		44.6 - 59.9 °F
suboptimal		59.9 - 66.2 °F
unacceptable		> 66.2 °F

Sources: Raleigh et al. 1984, Raleigh, et al. 1986, Rich 1987



Jones & Stokes Associates, Inc.

Figure 4.14-2a
Streamflow and Water Temperature Monitoring Locations on Alamitos, Arroyo Calero, and Guadalupe Creeks

TABLE 4.14-3a
FISH SPECIES COLLECTED IN PREVIOUS STUDIES IN THREE TRIBUTARIES OF THE GUADALUPE RIVER.

Species	Guadalupe Creek Reach 1	Guadalupe Creek Reach 2	Guadalupe Creek Reach 3	Alamitos Creek Reach 1	Alamitos Creek Reach 2	Alamitos Creek Reach 3	Arroyo Calero
Rainbow Trout	X	X	X	X	X	X	X
Sacramento Sucker	X	X	X	X	X	X	X
California Roach	X	X	X	X	X	X	X
Riffle Sculpin	X	X	X				
Prickly Sculpin	X	X	X	X			
Hitch				X			
Goldfish	X						
Green Sunfish	X						
Brown Bullhead					X		

Notes:

Guadalupe Creek Reach 1 = Confluence to Masson Dam
Guadalupe Creek Reach 2 = Masson Dam to Shannon Creek
Guadalupe Creek Reach 3 = Shannon Creek to Guadalupe Reservoir

Alamitos Creek Reach 1 = Almaden Lake to the Confluence with Arroyo Calero
Alamitos Creek Reach 2 = Confluence to McKean Road
Alamitos Creek Reach 3 = McKean Road to Almaden Reservoir

References:

Leidy 1984
USFWS 1991
The Habitat Restoration Group 1993
The Habitat Restoration Group 1994
Abel 1998
Smith 1998

MASTER RESPONSE K
FISHERIES IMPACTS/MITIGATION SUMMARY

Commenters have requested a summary of fisheries impacts and mitigation measures.

The following change is made to the Draft EIR/EIS:

On Page 4.14-27: Insert the following text and table at the top of the page after "Preferred Project":

> Table 4.14-3b includes a summary of beneficial, less than significant, and significant impacts and related mitigation measures for fisheries.

TABLE 4.14-3b

SUMMARY OF BENEFICIAL, LESS-THAN-SIGNIFICANT, AND SIGNIFICANT IMPACTS AND RELATED MITIGATION MEASURES FOR FISHERIES

IMPACTS	MITIGATION MEASURES
Preferred Project	
BENEFICIAL IMPACTS	
Permanent improved fish passage at Hillsdale Avenue and San Jose Water Company vehicle crossing.	Not Required
Improved fish passage in Reach 10B associated with relocation and reconstruction of stream gage Station No. 23B weir and channel restoration.	Not Required
Elimination of fish access into Canoas Creek.	Not Required
Elimination of fish access into Ross Creek.	Not Required
Reduced sedimentation and improved water quality associated with reduced bank erosion.	Not Required
Improved water quality associated with removal and/or treatment of potentially contaminated soil during project construction.	Not Required
Reduction in vegetation removal associated with maintenance practices.	Not Required
Removal of concrete rubble from banks and in the channel.	Not Required
Installation of rock weirs/rock vanes to create pools and riffles.	Not Required

IMPACTS	MITIGATION MEASURES
Improved fish habitat as more SRA cover will be established and less riparian forest fragmentation after project is completed.	Not Required
LESS-THAN-SIGNIFICANT IMPACTS	
Effects of herbicide use on water quality.	Not Required
Stranding of fish in bypass channels.	Not Required
Effects on channel morphology/sediment transport in channel reaches affected by bypass channels.	Not Required
Construction impacts on fish migration and spawning.	Not Required
Effects on fishery resources resulting from thermal impacts.	Not Required
SIGNIFICANT IMPACTS	
WQ-1. Potential for increased turbidity and sedimentation of aquatic habitats from soil disturbing activities and discharge of pollutants from heavy equipment operation/accidental spills of hazardous materials during construction.	WQ-1. Prepare and Implement a Storm Water Pollution Prevention Plan.
F-1. Reduction in SRA cover resulting from the removal of 4,886 linear feet of overwater vegetation and 1,720 linear feet of undercut bank along the Guadalupe River.	F-1. Replace affected undercut banks and SRA cover habitat on site.
F-2. Adverse effects on fish from temporal loss of habitat.	F-2. Improve fish passage conditions to suitable salmonid habitat on Guadalupe Creek (i.e., concrete channel near Reynolds Road and stream gage Station No. 43).
Minimize Vegetation Impacts Alternative	
BENEFICIAL IMPACTS	
Permanent mproved fish passage at Hillsdale Avenue and San Jose Water Company vehicle crossing.	Not Required
Improved fish passage in Reach 10b associated with relocation and reconstruction of stream gage Station No. 23b weir and channel restoration.	Not Required
Elimination of fish access into Canoas Creek.	Not Required
Elimination of fish access into Ross Creek.	Not Required

IMPACTS	**MITIGATION MEASURES**
Reduced sedimentation and improved water quality associated with reduced bank erosion.	Not Required
Improved water quality associated with removal and/or treatment of potentially contaminated soil during project construction.	Not Required
Reduction in vegetation removal associated with maintenance practices.	Not Required
Removal of concrete rubble from banks and in the channel.	Not Required
Installation of rock weirs/rock vanes to create pools and riffles.	Not Required
Improved fish habitat as more SRA cover will be established and less riparian forest fragmentation after project is completed.	Not Required
LESS-THAN-SIGNIFICANT IMPACTS	
Effects of herbicide use on water quality.	Not Required
Stranding of fish in bypass channels.	Not Required
Effects on channel morphology/sediment transport in channel reaches affected by bypass channels.	Not Required
Construction impacts on fish migration and spawning.	Not Required
Effects on fishery resources resulting from thermal impacts.	Not Required
SIGNIFICANT IMPACTS	
WQ-1. Potential for increased turbidity and sedimentation of aquatic habitats from soil disturbing activities and discharge of pollutants from heavy equipment operation/accidental spills of hazardous materials during construction.	WQ-1. Prepare and Implement a Storm Water Pollution Prevention Plan.
F-1 (MVI). Reduction in SRA cover vegetation and undercut banks at bank erosion repair sites, bank excavation and maintenance ramp construction locations, and at bypass channel entrances.	F-1 (MVI). Replace affected undercut banks and SRA cover habitat on site.

IMPACTS	**MITIGATION MEASURES**
F-2 (MVI). Effects on fish from temporal loss of habitat.	F-2 (MVI). Improve fish passage conditions to suitable salmonid habitat on Guadalupe Creek (i.e., concrete channel near Reynolds Road and stream gage Station No. 43).

MASTER RESPONSE L
CUMULATIVE FISHERIES IMPACTS

Several comments have requested that clarification be given regarding mitigation measures for cumulative impacts on fisheries and that a discussion be included that makes the distinction between mitigation applied to impacts of the Downtown project and the Upper project.

None of the proposed mitigation measures for the Upper Guadalupe River Flood Control Project are dependent upon any other project in the Guadalupe River basin area nor is there any mitigation overlap with any other project in the Guadalupe River basin area (see Section 5.1, "Other Projects Proposed in Vicinity of Guadalupe River Corridor"). Table F.1 (see Master Response F) summarizes the presently proposed SRA habitat, riparian, and fisheries mitigation for both the Downtown and Upper Guadalupe River Flood Control Projects.

In response to comments requesting that the Draft EIR/EIS include a thermal analysis of the direct and cumulative effects of the upper project on Guadalupe River water temperature, the EIR/EIS authors have prepared Master Response H. Chapter 5, "Cumulative Impacts," has been revised to reflect the results of that thermal analysis and the potential of those temperature increases to adversely affect fish.

The following change is made to the Draft EIR/EIS:

On Page 5-14: The following modification is made to the Cumulative Impact section under "Fisheries."

Fisheries

The Preferred Project and other major projects would modify the stream channel and riparian corridor of the Guadalupe River, removing streamside vegetation that shades the stream channel and provides fish escape cover. These major channel modifications could be initiated within a few years of each other and span a significant portion of the channel of the Guadalupe River. However, construction of much of the Preferred Project could occur 10-20 years after the other major projects.

Implementation of the Downtown Guadalupe project (Triple Bypass Alternative) was determined to ~~affect~~ require approximately 18,026~~9,800~~ linear feet of shaded riverine aquatic (SRA) habitat mitigation and up to 25,000 square feet of anadromous spawning gravels as mitigation.~~; however, impacts on SRA are being reevaluated.~~ Implementing the proposed Upper Guadalupe River Project would require 4,886 ~~result in the direct removal of 3,959~~ linear feet of ~~overhead~~ SRA cover mitigation ~~in the form of overwater riparian vegetation~~ and 1,720~~359~~ linear feet of undercut bank~~s~~ mitigation.

Loss of SRA habitat from implementing the Downtown Guadalupe project will be fully mitigated. Impacts on SRA habitat from the Preferred Project would be fully mitigated. Mitigation measures required for the SRA cover impacts of the Preferred

Project are discussed under "Fisheries" (i.e., Mitigation Measure F-1). Mitigation for removal of riparian habitat due to the Preferred Project is also discussed under "Vegetation." Required mitigation to compensate for removal of riparian forest and SRA habitat includes preparing and implementing a ~~n integrated vegetation~~ mitigation and monitoring plan. In addition, the District's implementation of Mitigation Measure F-2 ~~F-1~~ and Mitigation Measure Cf-1 (see below) would provide fish access to an additional total of 12.2~~13.3~~ miles of stream habitat; the proposed project, mitigation measures, cumulative impact mitigation, and the Settlement Agreement would collectively provide an additional 19.2 miles of available habitat to migrating fish, including steelhead and possibly chinook salmon. The separated timing of the projects, the revegetation of the mitigation reaches (e.g., Reaches 10B and 12) in the early phases of project construction, and the District's participation in watershed management planning will also help to minimize cumulative impacts on the riparian corridor of the Guadalupe River.

The cumulative impact of removing streamside vegetation is therefore considered less than significant, and no additional mitigation is required.

Impact Cf-1: Cumulative Impacts on Fish and Fish Habitat from Construction-Related Activities and Increases in Water Temperature. ~~Blocked Access to Optimum Fishery Habitat Upstream.~~ Construction impacts of the proposed project are increased by the continued effects of previous projects. An impassable drop structure upstream of Blossom Hill, constructed as part of a District flood control project in 1977, blocks access by steelhead and salmon to spawning and rearing habitat in Alamitos, Arroyo Calero, and Guadalupe creeks. Two downstream barriers at Hillsdale Avenue and Branham Lane have restricted the migration of steelhead and salmon upstream to the drop structure except when flows exceed approximately 100 cfs.

As part of the proposed project, the District provided for interim passage over the ~~would remove~~ barriers at Hillsdale Avenue and downstream of Ross Creek during November 1998 ~~Branham Lane and further modify the weir at stream gage Station No. 23B~~ to improve fish passage conditions. These barriers will be permanently removed under the Upper Guadalupe River Flood Control Project. The proposed project would include relocation of Stream Gage Station 23B and permanently eliminating potential fish passage problems due to the weir. In accordance with a September, 1995 settlement agreement, the District has committed to construction of a step pool fish ladder at the Blossom Hill drop structure that will be fully operational by October 15, 1999 (refer to "Settlement Agreement" in Chapter 3, "Preferred Project and Alternatives"). In addition, as part of an MOU between the District and DFG, the District has committed to installing a fish passage device and fish screen on the intake works of the diversion at Masson Dam by 1999. Construction of the fish ~~ladder~~ passage facilities at the Alamitos drop structure and Masson Dam would provide access to an additional ~~2.9~~ 4.2 miles of fish habitat from the drop structure to potential fish barriers at ~~Masson Dam~~ stream gage Station No. 43 on Guadalupe Creek and the gabion structure on Alamitos Creek upstream of Mazzone Drive (Table 5.5).

Even with these ~~mitigation~~ measures, construction of the proposed project and other projects on the Guadalupe River, addressed earlier in this chapter, would result in cumulative impacts on anadromous fish habitat, water temperatures, and potential sedimentation of spawning and food producing areas. These cumulative impacts are considered significant. Thermal impacts are discussed further below.

The cumulative thermal effect of constructing both the Upper and Downtown (Triple Bypass Alternative) Guadalupe River flood control projects would cause temperature in the Downtown project reaches to be elevated above that which would occur if only the Downtown project was constructed.

The JSATEMP model simulated the cumulative effects of post-project water temperatures for the Preferred Project on post-project conditions in Contracts 1-3 (thermal segments 30-37) of the Downtown Project, for both the 6-year and 25-year construction schedules (Appendix F-D). For the 25-year construction scenario, the results of the simulations for the dry/median and wet years are labeled "Baseline YR 12" (i.e., post-project for Downtown project 12 years after construction of the Downtown project is completed) and "Postproject YR 12" (i.e., post-project for Upper and Downtown projects combined 12 years into construction of the Upper project when thermal impacts of the Upper project are at their greatest) (Figure 5.2). The cumulative effect of the post-mitigation conditions for the Upper project are shown in Figure 5.3 which shows temperature in the Downtown project area under Baseline YR 65 conditions (i.e., mitigation plantings for the Downtown project area have attained full growth) and Post-mitigation YR 65 conditions (i.e., mitigation plantings for both projects have attained full height).

Under the 25-year construction scenario for the Preferred Project, increases in Upper Guadalupe River Project temperatures would cause post-project average maximum temperatures in thermal segments of the Downtown project area to increase. Under the 25-year construction scenario, this incremental increase in Downtown project area temperatures would be greatest in segment 30 (i.e., Contract 3C of the Downtown Project) and would decrease in a downstream direction until thermal segment 35, at which point there would be virtually no cumulative effect of the Preferred Project on downtown temperatures (Figure 5.2). At year 12 of the 25-year construction scenario, simulated post-project (Downtown) average maximum temperature in thermal segment 30 increase by 0.7°F and 0.3°F (Figure 5.2) in August of the dry/median and wet flow years, respectively.

Under the 25-year construction scenario, the incremental increase in simulated water temperature was not significant enough to cause Downtown project area post-project temperatures in August to exceed the critical threshold for steelhead rearing of 77°F at any location for both flow years (Figure 5.2). The cumulative effect of the Upper project on Downtown project water temperatures is not expected to reduce habitat availability for steelhead juveniles. However, the thermal effects of the Preferred Project on Downtown project area temperatures would make conditions for juvenile rearing slightly worse than would occur if only the Downtown project were constructed.

Under post-mitigation conditions, the combined Upper and Downtown projects would result in lower water temperatures than those expected if only the Downtown project was constructed (Figure 5.3). Simulated post-mitigation average maximum temperatures in thermal segment 30 are 0.8°F and 0.9°F lower than baseline temperatures during August of the dry/median and wet flow years, respectively.

Because rearing habitat for juvenile steelhead in the entire Guadalupe River is only marginal at best and construction of both the Upper and Downtown projects would temporarily disturb a large proportion of existing habitat, the cumulative impact of constructing the Upper Guadalupe River flood control project is considered significant.

Mitigation Measure Cf-1: Provide for Fish Passage on Alamitos Creek and Monitor for the Presence of ~~Native~~ Anadromous Fish. To mitigate the Upper Guadalupe River Flood Control Project's contribution to cumulative impacts on fisheries habitat, the District proposes to implement Mitigation Measure Cf-1. The mitigation measure includes providing fish passage at the gabion structure on Alamitos Creek upstream of Mazzone Drive and at Stream Gage Station No. 16. Fish passage (a series of vortex rock weirs is proposed) ~~devices~~ would be designed in consultation with DFG and USFWS and incorporate engineering considerations and biological criteria developed for fish passage to ensure that adequate fish passage is maintained. Construction of the fish passage ~~device~~ would provide access to approximately 10.9~~10.7~~ miles of upstream fish habitat (Table 5.5), which is more than the total length of the Guadalupe River included in the project areas for the Upper Guadalupe River Flood Control Project (approximately 6.4 miles) and the Downtown Guadalupe River Flood Control Project (approximately 2.6 miles).

Successful implementation of Mitigation Measure Cf-1, in conjunction with implementing Mitigation Measure F-~~1~~2, would allow anadromous species (such as chinook salmon and steelhead trout) access to more suitable spawning habitat in the upstream tributaries. Mitigation Measure F-~~1~~2 includes improving fish passage conditions at ~~Masson Dam,~~ Stream Gage Station No. 43~~,~~ and the concrete channel on upper Guadalupe Creek, and would provide access to ~~2.6~~ 1.3 miles of higher quality fish habitat upstream of the project.

Implementing Mitigation Measures F-~~1~~2 and Cf-1 would allow access to approximately 12.2~~13.3~~ miles of more suitable upstream spawning and rearing habitat, which would result in a significant, long-term beneficial impact on fishery resources. With the step pool ladder at the ~~Blossom Hill~~ Alamitos drop structure and modifications to the partial barriers in the Upper Guadalupe River, a total of ~~approximately~~ 19.2 miles of more suitable habitat would be available.

The District will implement a monitoring program of fish passage improvements at the gabion structure on Alamitos Creek and at Stream Gage Station No. 16. Visual surveys will be conducted at each location from October 1 through April 30 (when adult chinook salmon and steelhead migrate) until it is demonstrated that the sites do not impede fish passage. The District, through its general maintenance program, will ensure that the sites are free of obstructions and debris that could block passage during the rainy season (i.e., October 1 through April 30).

~~The District would implement a two phase monitoring program of the fish passage improvements at Alamitos Creek to determine the success of the improvements: annual surveys (phase one) to determine whether fish are using the structures, and ongoing surveys in perpetuity (phase two) to ensure that structures are operating as designed. The District would develop an appropriate monitoring program in coordination with DFG and USFWS to document the successful passage of migratory fish (primarily chinook salmon and steelhead trout) at the gabion structure on Alamitos Creek. Phase one of the monitoring program would commence in the fall following completion of fish passage improvements. Monitoring would be conducted from October 1 to April 30, when migrating adult chinook salmon and steelhead trout are expected to occur.~~

~~Potential monitoring activities could consist of visual surveys at the improvement location; carcass, redd, and juvenile surveys in reaches upstream of the improvement location; automated fish counting systems mounted at each fish passage structure; or a combination of two or more methods to document the successful passage of adults. The precise sampling protocol would be developed in consultation with DFG and USFWS, and would depend on the opportunities and constraints governed by the local conditions (e.g., high turbidity levels during storm runoff periods may preclude the use of visual observations as a sampling method).~~

In addition to visual observations to determine successful fish passage, the District would look for indicators of passage problems, such as fish congregating downstream of the ~~ladder~~ fish passage improvements or failed attempts by fish to negotiate the ~~ladder~~ fish passage improvements.

The District would submit an annual monitoring report to DFG for up to five years after construction of fish passage improvements.~~modification of the gabion structure on Alamitos Creek.~~ If the objective of attaining fish passage has not been met and is not due to factors beyond the District's control (e.g., drought, natural downstream barriers, or limited numbers of fish), remedial actions would be initiated and monitoring would continue for up to an additional 5 years. Remedial actions could include redesign of structural improvements~~ or further negotiations with DFG and USFWS regarding other appropriate mitigation~~.

~~Mitigation Measure Cf-1 would be considered successful when fish passage was documented and no indicators of passage problems were present. After successful fish passage was documented, phase one of the monitoring program would be considered complete.~~

~~Phase two of the monitoring plan would include surveys during the rainy season (i.e., October 1 through April 30) to ensure that the fishway is free of obstructions and debris that would preclude their normal operation. The District would follow the same maintenance and inspection procedures as outlined in an existing MOU with~~

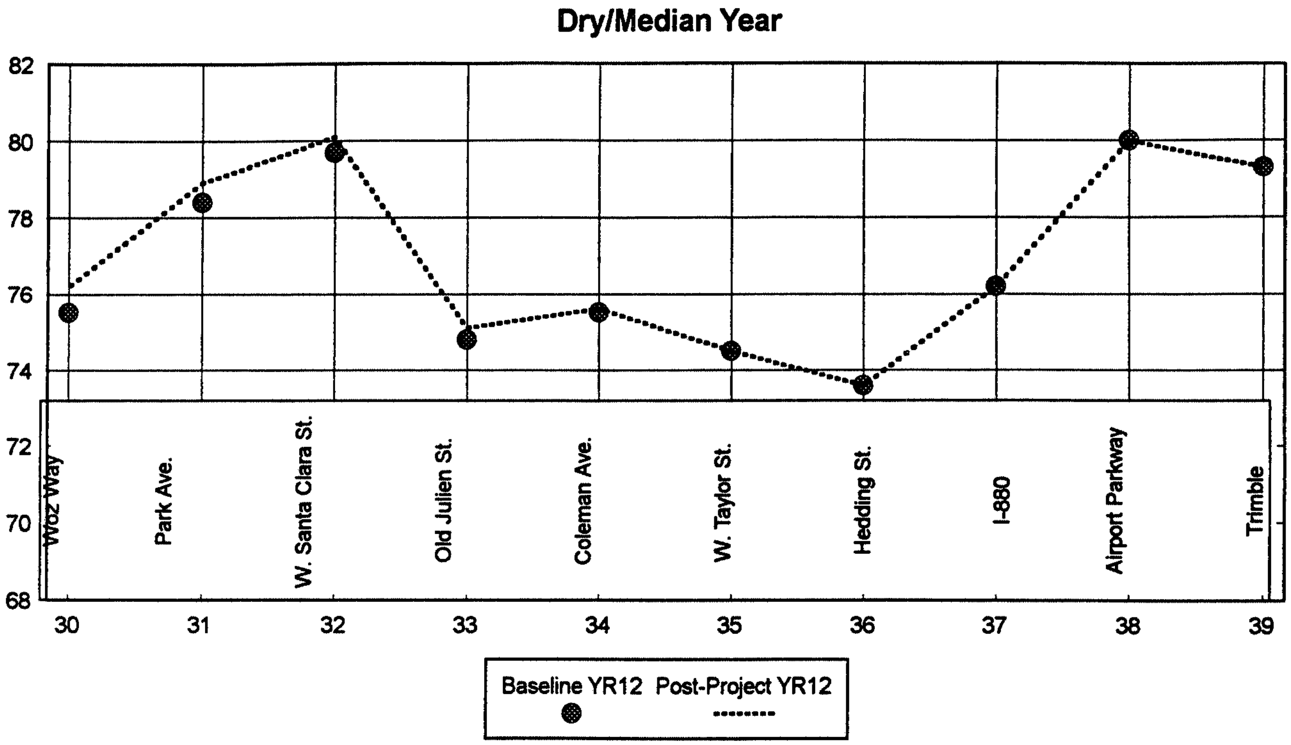
~~DFG, and take reasonable and appropriate measures to remove accumulated debris in a timely manner to restore to normal the operation of the fishway. The current MOU requires the District to inspect all fish ladders once every work day and at least once per day during high flow events on nonworking days during the migration period. This phase of the monitoring program would continued for the life of the improvement structure.~~

Mitigation Measure Cf-1 would provide fish access to an additional 10.9~~10.7~~ miles of stream habitat. Successful implementation of Mitigation Measure Cf-1, in conjunction with implementing Mitigation Measure F-~~1~~2, would provide chinook salmon and steelhead trout access to a combined total of 12.2~~13.3~~ miles of additional spawning and rearing habitat. Together, these measures will result in a long-term benefit to the anadromous fishery of the Guadalupe River because of the increase in habitat availability and the anticipated benefits associated with the improved habitat conditions found in these tributary streams. With the step pool ladder at the Blossom Hill drop structure and modifications to the partial barriers in the Upper Guadalupe River, a total of 19.2 ~~approximately 19~~ miles of ~~more~~ suitable habitat would be available.

Long-term Beneficial Cumulative Effects. Long-term beneficial effects from constructing the Upper and Downtown Guadalupe River flood control projects would occur through small incremental changes that would result in overall improvement to stream habitats. These incremental changes would be consistent with watershed and fisheries management, and water quality objectives. Collectively, these incremental changes would result in long-term beneficial impacts for fisheries. These incremental changes include:

- Restoring access for migratory fish to stream reaches below the dams on the upper tributary streams (i.e., Alamitos, Arroyo Calero, and Guadalupe Creeks),
- Eliminating straying of migratory fish such as chinook salmon and steelhead into streams (e.g., Canoas and Ross Creeks) with unsuitable habitat,
- Reducing sedimentation of aquatic habitats and improving overall water quality in the Guadalupe River associated with potential future reductions in bank erosion in the project area,
- Improving water quality associated with removal and/or treatment of potentially contaminated soil during project construction,
- Increasing SRA cover values and stream shading through reductions in vegetation removal associated with with-project vegetation maintenance practices,
- Increasing instream habitat values from installation of rock weirs and rock vanes to create pool and riffle habitats, and from the removal of concrete rubble from banks and the channel bottom in constructed reaches, and

- Reducing long-term water temperature in the mainstem Guadalupe River from increased stream shading and reduced fragmentation of riparian habitat.



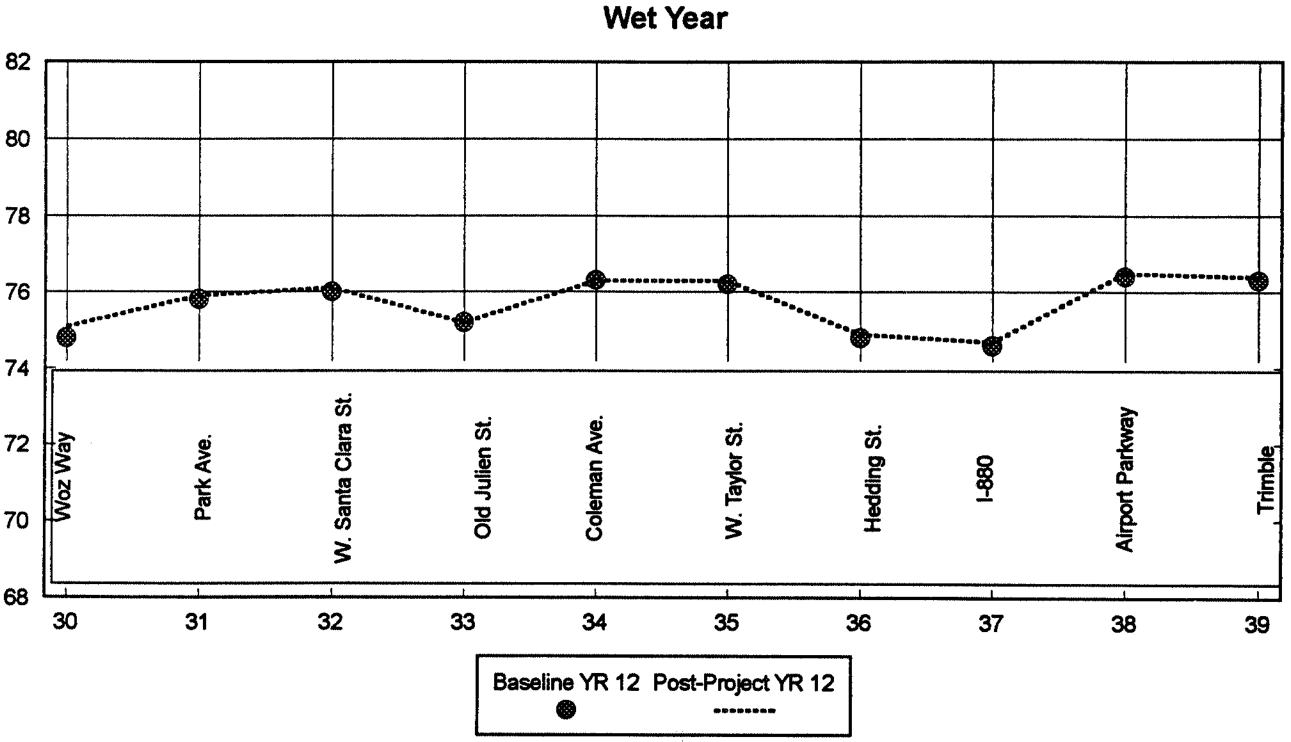


Figure 5-2. Average Maximum Temperatures in the Downtown Project Segments for the Baseline Scenarios (the Downtown Project at Years 0 and 12) and the Combined Upper and Downtown Scenarios under the Accelerated Schedule Year 0 and at Year 12 during August of the Dry/Median and Wet Years

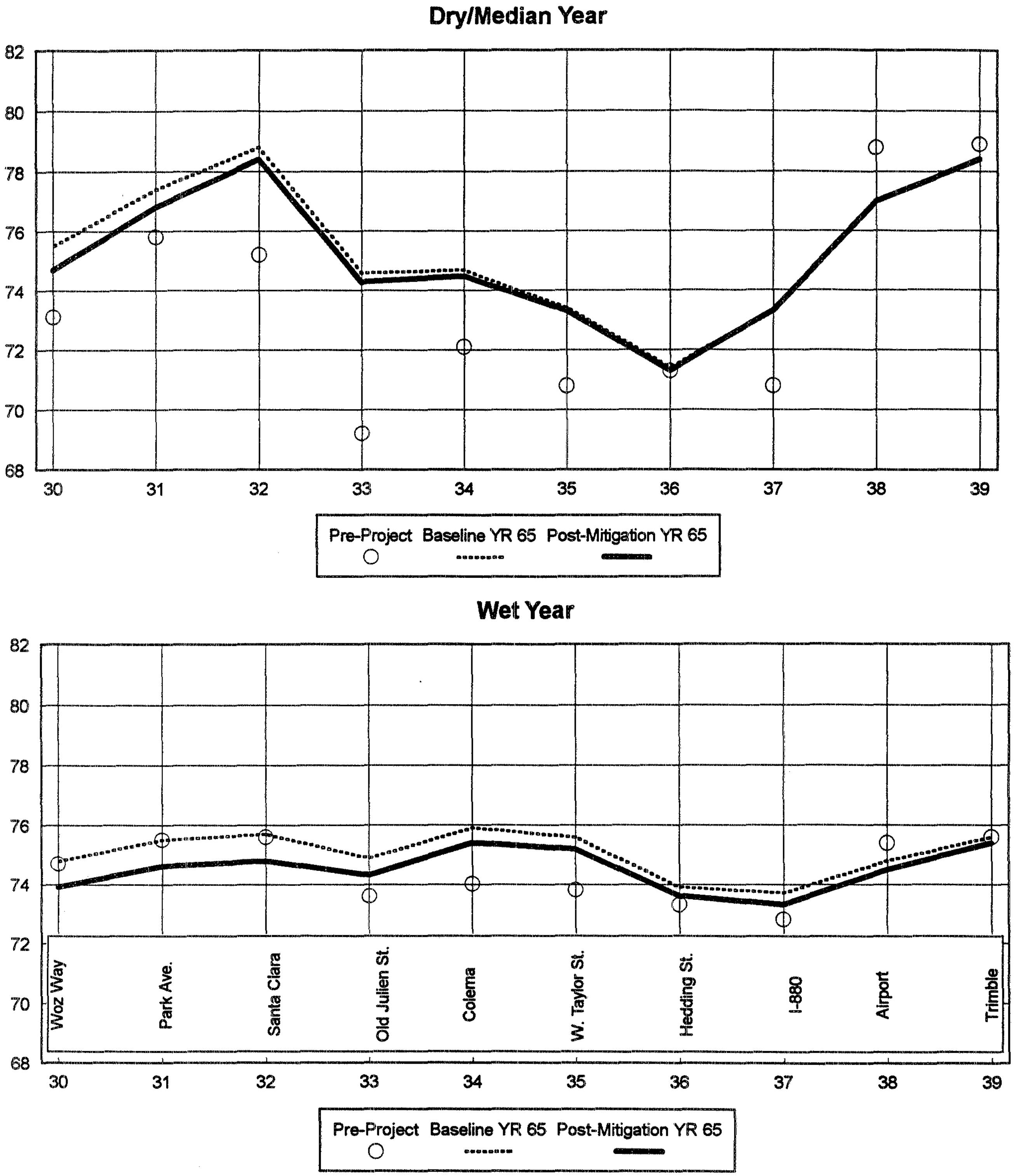


Figure 5-3. Average Maximum Temperatures in the Downtown Project Segments for Pre-Project, Baseline (Post-Mitigation Condition for the Downtown Project), and Post-Mitigation Scenario for the Upper Project (both Upper and Downtown Projects in a Post-Mitigation Condition) during August of the Dry/Median and Wet Years

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SECTION 14.4

RESPONSE TO COMMENTS

This Section contains the responses to both written and oral comments, received by the Santa Clara Valley Water District and U.S. Army Corps of Engineers during the 60-day public comment period (from February 11, 1997 to April 18, 1997) on the Draft EIR/EIS for the Upper Guadalupe River Flood Control Project. (Responses are also provided for the additional Comment Letter received by the Corps after the close of the public comment period.) Copies of the written comments received by the District and Corps are included in Section 14.2 of Volume IV. The Comment Letters and Public Hearing Comments are organized within this Section as follows:

- Letters Commenting on Draft EIR/EIS (1 through 32)
- Letters Comment on 404 Permit Application: 100 series (100 through 112)
- Public Hearing Comments: 200 series (200 through 242)

Responses to Comments are individually numbered in sequence corresponding to the numbering assigned to comments within each Comment Letter or Public Hearing Comment. The full text of the written comments along with the comments from the public hearing are included in Section 14.2 of Volume IV. In addition, to facilitate reading the Response to Comments, a summary of each comment is inserted in italics just prior to each response. This summary does not substitute for the actual comment; the reader is urged to read the full original text of the comments. The responses are prepared in answer to the full text of the original comment, and not to the abbreviated summary.

The Responses indicate where changes to the text of the Draft EIR/EIS have been made, with changes shown in revision mode. New text is underlined and deleted text is shown in ~~strikeover~~. Page references for text changes reflect the location of the change in the original Draft EIR/EIS text (Volume I) and do not accurately reflect the location of the text in Volume VI, Revised EIR/EIS Text, where pagination has changed.

COMMENT LETTER 1 - STATE OF CALIFORNIA, GOVERNOR'S OFFICE OF PLANNING AND RESEARCH, ANTERO A. RIVASPLATA (APRIL 11, 1997)

Response to Comment 1-1

The comment acknowledges that the Santa Clara Valley Water District has compiled with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

The Santa Clara Valley Water District appreciates the assistance of the State Clearinghouse in complying with the CEQA review requirements.

COMMENT LETTER 2 - U.S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL MARINE FISHERIES SERVICE, JAMES R. BYBEE (APRIL 22, 1997)

Response to Comment 2-1

The comment requests that portions of or all of the MVI Alternative be implemented to avoid many of the impacts to the aquatic environment, the natural channel, and riparian habitat.

See Master Response B.

Response to Comment 2-2

The comment requests a) that each impact should be accounted for individually and the specific mitigation for each impact should be clearly stated so there is no double counting of mitigation, especially with regard to riparian and SRA habitat; b) that mitigation measures for the Downtown and Upper Guadalupe River Flood Control Projects be clearly identified and overlap of mitigation measures avoided; and c) that laddering of the Alamitos drop structure should not be counted as mitigation for any impacts of the Upper Guadalupe River Flood Control Project.

The EIR/EIS authors agree that clarification of the mitigation is appropriate.

The following change is made to the Draft EIR/EIS:

Page 4.12-21. The following is added after the second full paragraph:

- Riparian impacts identified in Chapter 4.12, "Vegetation," include all impacts to riparian vegetation including riparian vegetation adjacent to the Guadalupe River that provides shade and cover to the Guadalupe River. The SRA habitat impacts identified in Chapter 4.14, "Fisheries" include that subset of riparian vegetation that is adjacent to the Guadalupe River and provides shade and cover to the Guadalupe River. Therefore the SRA habitat impacts, in fact, include a portion of the riparian impacts in order to isolate the impacts on the specific ecosystem functions of SRA habitat and properly account for the necessary mitigation for this specific category of riparian vegetation. Mitigation for riparian impacts includes replacement of all lost riparian vegetation at a 2:1 ratio and includes the subset of riparian vegetation within 15 feet of the bank of the Guadalupe River that will also provide SRA habitat. The resultant SRA habitat is counted as mitigation for lost SRA habitat in the same manner as the impacts were counted.

See Master Response F regarding clarification of mitigation measures for the Downtown and Upper Guadalupe River Flood Control Project.

The EIR/EIS authors agree that the Alamitos drop structure should not be counted as mitigation for any impacts of the Upper Guadalupe River Flood Control Project. The laddering of the Alamitos drop structure is required under the "Settlement Agreement" described in Chapter 3 (page 3-49) and is only included in the discussions about mitigation for the project to establish that this is a requirement for fish access to upstream impact mitigation sites. This action is not a mitigation measure for impacts caused by the Upper Guadalupe River Flood Control Project.

The following change is made to the Draft EIR/EIS:

Page 3-49. The "Settlement Agreement" section is modified as follows:

> The District has recently entered into a settlement agreement in response to a dispute with DFG. The dispute centered around the loss of aquatic life during the summer of 1994 as a result of a dry Guadalupe River in the area of Hillsdale and Minnesota Avenues in San Jose. The agreement stipulates, in part, that from August 8, 1995, until December 31, 1999, the District:
>
> . . . shall maintain a live stream from the confluence of Alamitos and Guadalupe Creeks downstream to the Santa Clara Valley Water District's Gauging Station 23B by maintaining a flow of at least one cubic foot per second of water at all times at said Gauging Station 23B . . .
>
> In addition, the settlement stipulates that the District:
>
> . . . shall construct a fish ladder or fishway at the twelve-foot drop structure that exists behind the Santa Clara Valley Water District Headquarters at Alamitos Creek, conforming to engineering and construction specifications approved in writing by the California Department of Fish and Game, to be fully operational by October 15, 1999.
>
> Construction of a step-pool ladder at the ~~15 foot Blossom Hill~~ Alamitos drop structure on the Guadalupe River is not part of the proposed project but is included here to provide a comprehensive project description. The laddering of the drop structure is not mitigation for any impacts associated with the Upper Guadalupe River Flood Control Project. There is no large drop structure at Alamitos Creek. The District prepared a final Initial Study and Mitigation Negative Declaration in December, 1998 and has ~~submitted preliminary~~ an approved design ~~drawings~~ for the proposed step-pool ladder at the ~~Blossom Hill~~ Alamitos drop structure ~~to~~ from the DFG.

Response to Comment 2-3

The comment requests that the mitigation bank for riparian and SRA habitat be clearly defined and its location(s) specified, that sites for SRA habitat mitigation be clearly identified, and that the proposed maintenance program be clearly defined.

The mitigation bank and the SRA habitat mitigation sites are now clearly defined and identified in the Plate Volume (see below). The proposed maintenance program was defined in detail in the Engineers Report (February 1997) and described in the Draft EIR/EIS in Chapter 3 (page 3-45) and in Appendix C (Volume III). See Master Response C for additional discussion of the maintenance program.

The following changes are made to the Draft EIR/EIS:

Page 3-46 and 3-47. The following revisions are made to the last paragraph on page 3-46 and the first full paragraph on page 3-47 and a new paragraph is added after the first full paragraph on page 3-47:

> The District is proposing to ~~construct~~ establish ~~5.43~~ 5.86 acres of riparian mitigation bank (5.28 acres riparian forest and .58 acre urban forest or xeric riparian forest). ~~Because this is mitigation for elimination of the potential for vegetation reestablishment, rather than direct loss of vegetation, the overall standard for compensation (whether in-stream or off-stream) will be 1 acre restored for 1 acre net loss, unless it can be demonstrated that the restoration site exceeds the functions and values that are being mitigated.~~ An average annual impact of 0.04 acre of riparian habitat per year over the next 100 years would result in a total impact of 4.0 acres of riparian habitat after 100 years. Because the District is proposing to establish a mitigation bank up front and much of the habitat value will exist prior to expected impacts, the District is proposing that a mitigation ratio of less than 1:1 would be applied to a substantial portion of the potential impacts. The exact mitigation ratio will be determined in consultation with the appropriate regulatory agencies, including USFWS and DFG. For planning purposes, the District has assumed a 1:1 mitigation ratio over the next 100 years in its proposal to construct ~~5.43~~ 5.86 acres of riparian mitigation bank~~, but is expecting to~~. The District might use some of this bank for other projects, such as the Downtown Guadalupe River Flood Control Project, on a case-by-case basis with the concurrence of the appropriate regulatory agencies, including USFWS and DFG.
>
> The District is also proposing to establish approximately ~~5,779~~ 8,462 linear feet of SRA mitigation bank in excess of the project's construction-mitigation needs. This bank could provide mitigation for over ~~60~~ 100 years of erosion repair projects, assuming a 1:1 mitigation ratio for SRA impacts and assuming that an average of 80 linear feet per year of SRA habitat would be affected by erosion repair. The riparian and SRA mitigation banks might also be used to compensate for other District projects on a case-by-case basis with the concurrence of the appropriate regulatory agencies, including USFWS and DFG. The District will establish guidelines, in coordination with USFWS and DFG, for the operation of the mitigation banks and for accounting for habitat affected and mitigation provided.
>
> The mitigation bank includes riparian mitigation plantings in Reaches 7, 10C and 11A and SRA mitigation plantings in Reaches 7, 10A, 10C, and 11 (Table 3.6). Proposed mitigation plantings as well as the mitigation bank sites are identified in Plates V-41 through V-54 (Volume II of the Draft EIR/EIS), revised Plates in Volume V of the Final EIR/EIS, and in the Mitigation and monitoring plan (Volume VIII of the Final EIR/EIS). A Mitigation Bank Agreement that stipulates the operation and maintenance of the mitigation bank will be developed in consultation with and with the approval of the appropriate regulatory agencies, including USFWS and DFG.

Page 4.12-27. The first sentence of the fifth paragraph is modified as follows:

> Plates V-41 through V-~~53~~ 54 (~~in a separate volume of this EIR/EIS~~in Volume II of the Draft EIR/EIS), revised Plates in Volume V of the Final EIR/EIS, and Exhibit A of the mitigation and monitoring plan (see below) show~~s~~ areas preliminarily designated for mitigation plantings called for in Mitigation Measure V-1, and Table 3.6 lists sites designated for mitigation banking.

Page 4.12-34. The following is added after the eighth paragraph:

> *Mitigation Banking.* The Preferred Project would result in 5.86 acres of riparian mitigation bank (5.28 acres riparian forest and 0.58 acre urban forest or xeric riparian forest) and approximately 8,462 linear feet of SRA mitigation bank. The mitigation bank includes riparian mitigation plantings in Reaches 7, 10C and 11A and SRA mitigation plantings in Reaches 7, 10A, 10C, and 11 (Table 3.6). Proposed mitigation plantings as well as mitigation bank sites are identified in Plates V-41 through V-54 of the draft EIR/EIS, revised Plates in Volume V of the Final EIR/EIS, and Exhibit A of the mitigation and monitoring plan in Volume VIII of the Final EIR/EIS. A Mitigation Bank Agreement that stipulates the operation and maintenance of the mitigation bank will be developed in consultation with and with the approval of the appropriate regulatory agencies, including USFWS and DGF.

TABLE 3.6

PROPOSED MITIGATION BANK SITES
(PROPOSED: 5.86 AC RIPARIAN AND 8,462 LINEAR FEET SRA)

Reach	Riparian (acres)	SRA (linear feet)
7	0.58	1,335
10A	N/A	584
10C	1.84	1,741
11A	3.44	3,150
11B	N/A	1,012
11C	N/A	640
Total	5.86	8,462

Note: Total riparian mitigation includes 5.28 acres riparian forest and 0.58 acre urban forest or xeric riparian forest.

Response to Comment 2-4

The comment states that the cumulative impact section needs to identify all associated impacts to the Guadalupe River watershed, including the Maintenance Program and the

Spreader Dam Program. It further states that mitigation measure Cf-1 needs to clearly identify any portions of the mitigation that are mitigation for the Downtown Guadalupe River Flood Control Project and explain the relationship between the mitigations.

The maintenance program for the Upper Guadalupe River is described in the Draft EIR/EIS in Chapter 3 (page 3-45) and Appendix C (Volume III) and potential impacts mitigated through establishment of a mitigation bank (refer to Response to Comment 2-3 and Master Response C). The Maintenance Program and Spreader Dam Program are addressed in the cumulative impact section (see below).

The following changes are made to the Draft EIR/EIS:

Page 5-4. The following is added after the second full paragraph:

Two additional programs are under consideration by the District: a Maintenance Program and an Instream Recharge Program.

- Maintenance Program. The District is presently considering implementation of a Maintenance Program and is preparing a Maintenance Program EIR to address potential impacts. The EIR will address sediment removal, erosion protection, vegetation control, and other elements on a program level. Alternative methods of accomplishing the work will be presented including best management practices (BMPs). Any residual impacts after implementing BMPs will be identified and mitigated. Expected impacts on the Downtown Guadalupe River project area and the Lower Guadalupe River as a result of the Maintenance Program are unknown as the details of the program are not yet defined. Specific maintenance required to maintain the Downtown Guadalupe River Flood Control Project, as proposed, will be stipulated under the Downtown Guadalupe River Project.

- Instream Recharge Program. The Corps' Clean Water Act Section 404 permit which governed the District's use of gravel dams for instream recharge expired in 1994. With the exception of dams on the Coyote Creek and Madrone Channel, these dams have not been in place since 1994. The RWQCB indicated to the District that new permits would require CEQA compliance. The District released a draft EIR for a proposed Instream Recharge Program in March, 1995 that would continue historic activities associated with the installation and operation of up to 44 spreader dams, providing 34,000 acre-feet of artificial recharge annually or 23 percent of the District's artificial recharge capacity. The Instream Recharge Program is presently under review based on comments received on the Draft EIR. The analysis in the Draft EIR/EIS for the Upper Guadalupe River Flood Control Project assumed two instream spreader dams would be operated in Reach 12 and four instream spreader dams would be operated in Guadalupe Creek, although these are not presently in operation. This analysis is based on operations that occurred at the initiation of the EIR/EIS. The Instream Recharge Program is currently under review by the District. The proposed program that will evolve from this reconsideration is not known at this time.

Response to Comment 2-5

The comment points out that the discussion on the steelhead trout (Oncorhynchus mykiss), listed as threatened within the Central California Coast Steelhead Evolutionary Significant Unit (ESU) on August 9, 1996, will need to be updated due to the listing and addressed appropriately.

The EIR/EIS authors concur.

The following changes are made to the Draft EIR/EIS.

Page 4.14-4. The last sentence in the second paragraph is modified as follows:

> The continual declines in abundance over the past several decades of naturally-reproducing steelhead ~~trout~~ populations along the west coast of the United States (including California) as a result of natural and human factors have prompted the National Marine Fisheries Service (NMFS) to ~~propose~~ list steelhead ~~trout~~ as threatened ~~or endangered~~ under the federal Endangered Species Act (ESA). In addition, chinook salmon that occur in the Guadalupe River drainage are considered by the National Marine Fisheries Service to be part of the Southern Oregon and California Coastal ESU (Gilroy pers. comm.) and possibly the California Central Valley fall/late-fall-run ESU (63 FR 11481; March 9, 1998). Both of these chinook salmon ESUs have been proposed for listing as threatened (63 FR 11481; March 9, 1998).

Page 4.14-4. The last three sentences in the third paragraph are modified as follows:

> For example, Scoppettone and Smith (1978) and Aceituno et al. (1976) documented the extensive losses of native fish species in Alameda and Coyote Creeks, and Leidy (1984) documented losses throughout the San Francisco Bay Area. Although steelhead are the only ~~No~~ fish species in the South Bay Area ~~is~~ officially listed as rare, threatened, or endangered, ~~but~~ many~~, especially~~ lowland species~~,~~ are extremely depleted throughout their range. One Bay Area fish, the thicktailed chub (*Gila crassicauda*), is now extinct and another, the Sacramento perch (*Archoplites interruptus*), is being considered for state listing as rare because of rarity within its native range.

Page 4.14-9. The second paragraph is modified as follows:

> NMFS has completed a comprehensive status review of West Coast steelhead trout populations within California, Idaho, Oregon, and Washington and has identified 15 Evolutionary Significant Units (ESUs) within this range. ~~Five of these ESUs are proposed for listing as threatened or endangered under the federal ESA (61 FR 41541-41561, August 9, 1996). One of the five ESUs proposed for listing as threatened, the Central California Coast ESU, includes river basins from the Russian River (Sonoma County) to Soquel Creek (Santa Cruz County), and the drainages of the San Francisco and San Pablo Bays.~~ The Central California Coast steelhead evolutionarily significant unit (ESU) has been listed as threatened under the federal

Endangered Species Act (ESA) (62 FR 159; August 18, 1997). The Central California Coast steelhead ESU includes river basins from the Russian River system (Sonoma County), California to Aptos Creek (Santa Cruz County)(inclusive), and the drainages of the San Francisco and San Pablo Bays (62 FR 159; August 18, 1997).

Page 4.14-13. The following is inserted after the third full paragraph:

Chinook salmon that occur in the Guadalupe River drainage are considered by the National Marine Fisheries Service to be part of the Southern Oregon and California Coastal ESU (Gilroy pers. comm.) and possibly the California Central Valley fall/late-fall-run ESU (63 FR 11481; March 9, 1998). Both of these chinook salmon ESUs have been proposed for listing as threatened (63 FR 11481; March 9, 1998).

Response to Comment 2-6

The comment requests that the Final EIR/EIS show how the project will be funded under different conditions.

The Preferred Project elements are not affected by different funding scenarios. The different funding scenarios will only affect the construction schedule of the project. The EIR/EIS authors have taken the most likely funding scenario in developing the construction schedule stated in the Draft EIR/EIS, which is no federal funding and benefit assessment funding continues at the current rate.

Response to Comment 2-7

The comment states that the Plate Volume will need to be revised to show the actual mitigation sites for mitigation banking, undercut bank, and SRA habitat.

The Plate Volume is modified to show the suggested mitigation sites.

Response to Comment 2-8

The comment points out that impact mitigation measures need to be independent of each other and systematically accounted for with no overlap, with specific reference to page 1-6.

Refer to Response to Comment 2-2.

Page 1-6. The sixth full paragraph is modified as follows:

Significant impacts that were identified in each environmental topic section in Chapter 4 have been assigned numbers. For example, erosion during construction was identified as a potential geology, soils, and seismicity impact and is numbered "Impact G-1." The mitigation measure recommended to reduce this impact to a less-than-significant level is numbered "Mitigation Measure G-1." In some cases, ~~more than one impact can be mitigated by a single mitigation measure, as indicated in the summary table. Similarly,~~ more than one mitigation measure may be recommended for a single impact. When this occurs, the numbered mitigation measures are followed by a, b, c, etc. Table 1.2 contains one-sentence impact and mitigation measure statements that are followed, in parentheses, by a page number where that impact or mitigation measure is discussed in the main EIR/EIS text in Chapter 4.

Response to Comment 2-9

The comment states that Fisheries Mitigation Measure F-1 needs to be explained since Guadalupe Creek is mitigation proposed for the Downtown project.

See Master Response F.

Response to Comment 2-10

The comment requests that the relationship be explained between mitigation proposed on Alamitos Creek for the Downtown Project and Fisheries Cumulative Mitigation Measure Cf-1 for the Upper Guadalupe River FCP.

See Master Response F.

Response to Comment 2-11

The comment states that the proposals to remove or modify existing fish barriers need to be explained in detail since these actions are already proposed as either part of the Downtown Project or the Settlement Agreement.

See Master Response F and L.

To clarify how barrier removal is to be addressed, the following changes are made to the Draft EIR/EIS:

Page 3-39. The end of the first partial paragraph is modified as follows:

> . . . The existing drop in the channel bottom downstream of Hillsdale Avenue consisting of a concrete apron and weir, that acts as a drop structure and fish barrier, would be removed and the channel bottom excavated to create a continuous slope. A low-flow channel would be constructed using rock weirs, root wads, and other stream restoration features. An interim fix for this barrier was provided by the District in November 1998; the permanent removal of the barrier would be provided under this Upper Guadalupe River Flood Control Project.

Page 3-39. The last paragraph is modified as follows:

> **Reach 11B: Bryan Avenue to Ross Creek - West Bank Widening with Cribwalls**
>
> The west bank would be excavated with a 1:6 side slope lined with cribwalls to create an earth bench up to 40 feet wide, located about 5 feet above the channel bottom to increase channel capacity and provide maintenance access. Maintenance roads would be located on the west bench and east top of bank. An abandoned SJWCo concrete low flow crossing which acts as a drop structure and fish barrier would be removed and the channel bottom excavated at this location. The bench would be revegetated with riparian species. An interim fix for this barrier was provided by the District in

> November 1998; the permanent removal of the barrier would be provided under this Upper Guadalupe River Flood Control Project.

Page 3-50. The second to last paragraph is modified as follows:

> Proposed channel modifications would result in beneficial impacts to stream ecology, hydrology, and fisheries. These include ~~removing a~~ permanent fixes by removing a concrete apron and weir at Hillsdale Avenue (Reach 10C) and a low-flow vehicle crossing downstream of Ross Creek (Reach 11B) (interim fixes were completed in November 1998). Both structures are potential barriers to upstream migration by adult salmon and steelhead ~~trout~~ and require high flows for successful fish passage. Only during peak urban storm runoff or prolonged watershed runoff do existing flows allow successful fish passage. ~~Removing the barriers~~ Permanently fixing the interim structures would improve long-term access for migrating fish ~~from the San Francisco Bay upstream to the drop structure above Blossom Hill Road~~. The District would also ~~modify the weir at~~ move Stream Gage Station No. 23B to the downstream end of Reach 10B and construct it to be at the channel invert to further improve passage conditions for migrating adult fish (refer to Section 4.14, "Fisheries"). Stepped pools would also be constructed at the Ross Creek confluence ~~and at the drop structure upstream of Blossom Hill Road~~.

Page 5-15. The following change is made to the first sentence of the second full paragraph:

> ~~As part of the proposed project~~, The District provided for interim fish passage over the ~~would remove~~ barriers at Hillsdale Avenue and downstream of Ross Creek during November 1998 ~~Branham Lane and further modify the weir at stream gage Station No. 23B~~ to improve fish passage conditions. These barriers will be permanently removed under the Upper Guadalupe River Flood Control Project. The proposed project would include moving the Stream Gage Station 23B to the downstream end of Reach 10B to the channel invert and permanently eliminating potential fish passage problems due to the weir at the gage station.

Page 5-15. The following change is made to the first sentence of the third full paragraph:

> Even with these ~~mitigation~~ measures, construction of the proposed project and other projects on the Guadalupe River, addressed earlier in this chapter, would result in cumulative impacts on anadromous fish habitat, water temperatures, and potential sedimentation of spawning and food producing areas.

Response to Comment 2-12

The comment requests that the National Marine Fisheries Services (NMFS) be added to Table 2.1.

The comment is correct that the National Marine Fisheries Service (NMFS) should be included under the Endangered Species Act (ESA) agency consultation.

The following change is made to the Draft EIR/EIS:

Page 2-6. The third row of Table 2.1 is corrected to read as follows:

Agency	Act or Regulation	Requirement	Compliance Procedure
National Marine Fisheries Service and U.S. Fish and Wildlife Service	Fish and Wildlife Coordination Act of 1958 (16 USC Section 661 *et seq.*); Endangered Species Act of 1973 (16 USC Section 1531 *et seq.*)	Compliance with provisions of the Acts including coordination with NMFS, USFWS and CDFG.	Conference under Endangered Species Act regarding ~~proposed~~ listing of steelhead as threatened and red-legged frog as threatened. Review Draft and Final EIR/EIS.

Response to Comment 2-13

The comment suggests that if it is uncertain that the Stream Restoration Alternative would comply with the requirements of the Clean Water Act Section 404(b)(1) guidelines for implementation of the least environmentally damaging practicable alternative (LEDPA) (page 3-5), then the MVI Alternative should be selected rather than the Preferred Alternative.

The MVI Alternative is identified in the Draft EIR/EIS as the environmentally superior alternative under CEQA. However, the MVI Alternative would cost over $43 million more than the Preferred Project and have greater socioeconomic impacts, including impacts to 139 more homes than the Preferred Project. These are two factors that have been considered in determining whether the MVI Alternative is practicable. See Master Response B.

Appendix D (Volume III of the Draft EIR/EIS) included a Section 404(b)(1) alternatives analysis. Based on the analysis in the Draft EIR/EIS and refinements to the analysis as a result of comments received on the Draft EIR/EIS, the Section 404(b)(1) alternatives analysis concludes that the Preferred Project is the least environmentally damaging, practicable alternative (see Appendix D in the Final EIR/EIS).

Response to Comment 2-14

The comment states that fisheries mitigation activities proposed for Reach 13 are already part of the Downtown Project and the Settlement Agreement.

See Master Responses F and K.

Response to Comment 2-15

The comment requests a clarification on why different RCB sizes are required at SPRR and UPRR.

Both the quadruple-cell and triple-cell RCB culverts proposed in the bypass channel are designed to pass the same 1 percent flood flow for their specific sites, except that the triple-cell RCB will experience a higher velocity.

Response to Comment 2-16

The comment requests deletion of the Branham gravel dam operations description from the reports.

The in-stream percolation ponds in Reach 12 have been operated since the 1930's. They are a critical feature in the water supply system for the people in Santa Clara County. They have not been operated in the last four years as a permit was not obtained from the California Department of Fish and Game or Corps of Engineers. The SCVWD expects to resume operation of these ponds for percolation purposes in the future.

Response to Comment 2-17

The comment states that the step-pool ladder proposed for the Alamitos drop structure and mentioned on page 3-41, needs to be explained in detail.

The referenced text on page 3-41 refers the reader to a subsequent section of the document entitled "Settlement Agreement" for more details on the proposed step-pool ladder. The "Settlement Agreement" section of the Draft EIR/EIS is on page 3-49. See also Response to Comment 2-2.

Response to Comment.2-18

The comment requests that a qualified fisheries biologist conduct field surveys.

The EIR/EIS authors concur.

The following change is made to the Draft EIR/EIS:

Page 3-42. The last two sentences of the first full paragraph are modified as follows:

> Construction outside this period would require prior approval from the California Department of Fish and Game. Construction in the channel invert or other construction activities requiring stream dewatering, heavy equipment operations in the channel, or stream crossing would be limited May 1 to October first period, with the stipulation that such activities can commence before June 1 only if field surveys conducted by a qualified fisheries biologist (consisting of a minimum of three days of sampling) indicate that no juvenile salmonids are present in the project vicinity and that average daily water temperatures have exceeded 64 degrees F for a minimum of 3 days in a row...

Response to Comment 2-19

The comment requests mention of Reach 12 mitigation as part of Downtown Project; clarification of funding availability for the project; revision of the explanation provided for the interim remediation at Gage Station 23B; and clarification of why Gage Station 23B is a barrier.

Planning for the Downtown Project is ongoing. The SCVWD and Corps are consulting with interested parties to discuss incorporation of project features to address local concerns. The Downtown Project's mitigation plan is changing every day. To consider Reach 12 as part of the Downtown Project's mitigation plan at this time is premature and speculative. The plan proposed in the Draft EIR/EIS is exclusively the Upper Guadalupe River and any mitigation required.

Refer to Response to Comment 2-6 regarding funding availability.

Local groups and CDFG did heighten the District's awareness of the need to improve fish passage at Gage Station 23B, and in October 1995 the District decided to implement the remediation because of the lengthy construction schedule of this project and because Gage Station 23B was constructed by the District.

In the CDFG letter to the District, dated October 2, 1995 requesting the District to modify fish passage problem sites on the Guadalupe River, CDFG discussed this site as an impediment to anadromous fish passage.

See Master Response F for additional information regarding relationship to the Downtown Project.

Response to Comment 2-20

The comment states that Footnote 2 in Table 3.5 needs to be updated because they are part of the Downtown project and the Settlement Agreement and should not be a part of the Upper Guadalupe River FCP.

Fish barrier modifications upstream of Blossom Hill Road include modifications at Stream Gage Station No. 43 and at the concrete channel downstream of Reynolds Road.

The following change is made to the Draft EIR/EIS:

Page 3-44. In Table 3.5, Footnote 2 is revised as follows:

> 2 Including fish barrier removal. ~~Interim fish barrier remediation may be provided,~~Includes modifications at Stream Gage Station No. 43 and at the concrete channel downstream of Reynolds Road.

Response to Comment 2-21

The comment questions the assumption in the Draft EIR/EIS (page 3-45) that the maintenance program described in Appendix C will be implemented and recommends that current maintenance practices be changed.

The District, as part of the proposed project, is committed to implementing the maintenance program described in Appendix C. This maintenance program will result in reduced impacts compared to current practices. See also Master Response C.

Response to Comment 2-22

The comment requests a clarification on the numbers generated for mitigation banking for the future erosion repair projects and requests inclusion of permanent loss of SRA due to the bypass channel in the impact analysis.

As stated in the Draft EIR/EIS, the mitigation banking acreages for future erosion repair impacts were an estimate based on past records and with this project constructed. The EIR/EIS authors anticipate much less erosion repair will be required in the future and the EIR/EIS analysis assumes half the historic rate.

The loss of SRA due to the entrance and exit of the bypass channel was included in the Draft EIR/EIS impact analysis and mitigation plan. The EIR/EIS authors recognize that clarification of the text of the Draft EIR/EIS is appropriate.

The following change is made to the Draft EIR/EIS:

Page 3-46. The first paragraph is modified as follows:

> Over the last 18 years, erosion repair projects have affected a cumulative length of bank of 2,800 linear feet within the upper Guadalupe River project area. The total area affected by erosion repair was approximately 1.5 acres. The average area affected by erosion repair each year ~~is~~ was 160 linear feet ~~and~~ (0.08 acre). Over the 100-year life of the proposed project, some erosion repair will be necessary but the rate of repair would be less than the historic rate of 0.08 acre per year because the proposed bypass channels and gabion lining would be constructed. It is also expected that the use of the proposed maintenance program (Appendix C) will result in significantly less environmental impact at each erosion repair site.

Response to Comment 2-23

The comment requests clarification of the uses of the mitigation bank.

Refer to Response to Comment 2-3.

Response to Comment 2-24

The comment states that it needs to be made clear that the laddering of the Alamitos drop structure cannot be counted as mitigation for the Downtown Guadalupe River Flood Control Project. It also points out that the Settlement Agreement applies to the Alamitos drop structure, which is the same as our referenced Blossom Hill drop structure.

Refer to Response to Comment 2-2. Throughout the EIR/EIS, "Blossom Hill drop structure" will be changed to "Alamitos drop structure."

Response to Comment 2-25

The comment requests a clarification of how the removal of partial barriers in the Guadalupe River could be considered benefits for the project when this is proposed to be completed under the Downtown Guadalupe River Flood Control Project.

Refer to Response to Comment 2-11.

Response to Comment 2-26

The comment states that the additional miles of available fish habitat provided by the Upper Guadalupe River Flood Control Project needs to be clarified considering the contributions of the Downtown project and the Settlement Agreement.

The following change is made to the Draft EIR/EIS:

Page 3-51. The first full paragraph is modified as follows:

> ~~The proposed project, mitigation measures, and cumulative impact mitigation would provide an additional 19 miles of available fish habitat.~~ The flood control project is also expected to reduce the frequency and quantity of bank erosion, thereby improving water quality. The proposed mitigation would also provide for a more continuous riparian corridor along the upper Guadalupe River by reducing the number and lengths of gaps in riparian vegetation. The Downtown project does not provide any additional miles of available fish habitat because no barriers are proposed to be modified as part of that project. The Settlement Agreement and Masson Dam fish passage improvements would provide an additional 4.3 miles of available fish habitat. The proposed project mitigation measures and cumulative impact mitigation would provide an additional 12.2 miles of available fish habitat. The relocation of Stream Gage 23B and permanent fixes to two Guadalupe River barriers would ensure long-term access to an additional 2.7 miles of available fish habitat. Consequently, the Upper Guadalupe River Flood Control Project, its mitigation measures, and the Settlement Agreement would collectively provide an additional 19.2 miles of available fish habitat.

Response to Comment 2-27

The comment states that the cumulative effect of historic changes in the stream channel should be include in the cumulative impact analysis.

The cumulative impacts analysis identifies many past channel alteration projects as well as proposed and planned projects along the Guadalupe River and its tributaries in the vicinity of the proposed project. The cumulative impacts evaluation considered the impacts of the proposed flood control project in conjunction with the past and proposed future projects identified in the Draft EIR/EIS in Tables 5.1 and 5.3.

Response to Comment 2-28

The comment states that the Water Quality section fails to mention impacts to water temperature and recommends that the District's water temperature data be included in the pre-project description.

Pre-project and post-project water temperatures are addressed in Chapter 4.14 Fisheries in the Draft EIR/EIS. See also Master Response H.

Response to Comment 2-29

The comment states that information regarding dissolved oxygen (DO) levels in the river needs to be clarified.

The EIR/EIS authors concur.

The following change is made to the Draft EIR/EIS:

Page 4.3-1. The third sentence in the second paragraph is modified as follows:

> River water at the monitoring station, which is downstream of a weir that provides aeration, is nearly saturated with DO; however, DO levels at other locations in the river may vary. pH is slightly alkaline; and the water is very hard.

Response to Comment 2-30

The comment states data on turbidity needs to be corrected.

The EIR/EIS authors concur.

The following change is made to the Draft EIR/EIS:

Page 4.3-1. The fourth sentence in the second paragraph is modified as follows:

> Turbidity ranged from a low of 2.6~~3~~ Nephelometric Turbidity Unit (NTU) during the summer to a high of 800~~17~~ NTU in February ~~November~~.

Response to Comment 2-31

The comment asks that a section on SRA be added to the description of riparian forest.

The EIR/EIS authors concur. See also Response to Comment 2-2.

The following change is made to the Draft EIR/EIS:

Page 4.12-6. Add the following at the end on the section entitled **Riparian Forest**:

> Riparian forest includes the overwater vegetation component of shaded riverine aquatic (SRA) cover. SRA cover (see Chapter 4.14-Fisheries) is defined as the nearshore aquatic habitat, at the interface between the river and the adjacent riparian vegetation, consisting of overwater vegetation and instream woody cover. Willows,

> cottonwoods, and other shrubs and trees rooted within several yards of the water's edge overhang the river at different elevations, providing shade and visual screening. The vegetation closest to the water also supports the aquatic habitat by providing bank stabilization, nutrient input, habitat for insects on which fish feed, and other functions.

Response to Comment 2-32

The comment asks about planting SRA vegetation "on floodway terraces that would be kept clear of woody vegetation."

The wording of the sentence is unclear, leading to the unintended impression that some SRA mitigation plantings would be regularly cut to levels that would impair their value as SRA mitigation.

The following change is made to the Draft EIR/EIS:

Page 4.12-32. Revise the second bulleted paragraph under "*Shaded Riverine Aquatic Habitat*" to read:

> Plantings intended to provide SRA cover should be planted along the water's edge at summer low flows and should be sufficiently dense to provide shade along at least 85 percent of the bank's length. ~~At ground level, the width of plantings for riparian mitigation would vary from approximately 10 to over 30 feet because the space available for vegetation planting varies.~~ In some areas, SRA cover would be planted ~~on~~ in narrow strips ~~of~~ along the edges of low flow channels and along the edges of floodway terraces. Although these floodway terraces ~~that~~ would be kept free of woody vegetation, trimming and other maintenance would be avoided in designated strips of SRA cover. In other areas, SRA cover would be planted where there are no constraints on planting widths;~~. O~~in this case, only riparian plantings located within 15 feet of the low flow wetted channel are considered as SRA mitigation. When mature, the ~~widths~~ canopies of SRA plantings would exceed the ground level width by 10-50 feet~~, depending on the diameter of the canopies~~.

Response to Comment 2-33

The comment states that the Fisheries section will need to be updated and changed to reflect actions that will be carried out under the Settlement Agreement, the Downtown project, and the Upper Guadalupe River FCP. Furthermore, it states that the subject of gravel dams and instream recharge needs to be addressed as there are no current projects or permits. Finally, it requests that the fisheries benefits discussion be reconsidered since most of these are proposed already.

See Master Response F and Response to Comment 2-4.

Response to Comment 2-34

The comment requests that the Draft EIR/EIS reflect impacts associated with the entrances and exits of the bypass channels.

Vegetation losses (and corresponding SRA cover impacts) associated with the entrances and exits of the bypass channels were accounted for in the impact analysis and are reflected in the impact tables as overhead vegetation and undercut bank losses.

Response to Comment 2-35

The comment requests that impacts of channel widening on stream power, pool formation, and sedimentation be addressed. The comment further questions at what location does the 1.5-year flow equal 1,200 cubic feet per second (cfs).

See Master Response E. The location where the 1.5-year flow equals 1,200 cfs is between I-280 and the confluence of Canoas Creek with the Guadalupe River.

Response to Comment 2-36

The comment requests that locations for undercut bank mitigation be identified and that any additional impacts on riparian habitat during undercut bank construction by tabulated.

See Master Response M.

Response to Comment 2-37

The comment asks about reduction of riparian forest adjacent to the active channel.

The linear footage of riparian forest adjacent to the active stream channel will decrease in portions of Reaches 6, 8, 9, and 10A and increase in Reaches 7, 10B, 10C, 11A, 11B, 11C, and 12. See Table 4.14-6 (page 4.14-43) in the Draft EIR/EIS.

Response to Comment 2-38

The comment requests that the cumulative impacts section be revised to reflect the mitigation measures identified for the Downtown project and the Upper Guadalupe River Flood Control Project.

See Master Responses F, K, and L.

Response to Comment 2-39

The comment calls for consistent distinction between riparian forest mitigation and SRA mitigation.

Refer to Response to Comment 2-2 and 2-3.

Response to Comment 2-40

The comment requests that the mitigation ratio specified for erosion repair sites needs to be reviewed in light of the "plans to place hardscape in the erosion repair sites."

Mitigation Measure V-3 only applies to those erosion repair sites that can be mitigated on-site and where a hardscape treatment is not used.

Response to Comment 2-41

The comment requests that locations for undercut bank mitigation be identified and that any additional impacts on riparian habitat during undercut bank construction by tabulated. Furthermore, it points out inconsistencies between Pages 4.14-42 and 8-27 that describe where undercut bank will be constructed.

The EIR/EIS authors agree that clarification is needed.

The following change is made to the Draft EIR/EIS:

Pages 4.14-41 and 4.14-42. The discussion under "Mitigation Measures" is modified as follows:

> ~~**Mitigation Measure F-1: Construct Undercut Banks and Replace Loss of SRA Habitat On Site and Improve Fish Passage Conditions on Guadalupe Creek.** The District would mitigate construction-related impacts on undercut banks and short-term temperature impacts associated with vegetation clearing during construction by implementing the following specific measures:~~
>
> ~~*Construct 1,720 Linear Feet of Undercut Banks Using Appropriate Techniques Such As Biotechnical Measures and Provide 5,096 Lineal Feet of Overhead Vegetation.* In consultation with DFG and USFWS, the District would design and install appropriate revetment materials in association with replanted vegetation to create 1,720 linear feet of undercut bank habitats. This measure would provide for no net loss of undercut banks. Before initiating construction, the existing 1,720 linear feet of undercut banks would be documented in terms of water depths, velocities, and depths of undercut to provide detailed information on existing conditions. Undercut bank mitigation areas would be located in Reaches 7, 10C, 11A, and 11B. Mitigation areas would be evaluated annually for five years to determine whether created undercut banks are functioning properly by providing habitat conditions similar to those that were measured for existing conditions. If full mitigation cannot be achieved by created banks, the District would consult with DFG and USFWS, initiate remedial actions, and continue monitoring for an additional five years. Remedial actions could include redesign of revetment or other appropriate mitigation based on negotiations with DFG and USFWS.~~
>
> ~~Mitigation would be considered complete in the fifth year if created undercut bank lengths provide habitat conditions similar to those measured for preproject conditions.~~

~~In addition, the loss of undercut banks, overhead cover and stream shading would be reduced by implementing Mitigation Measure V-1, which recommends that the District prepare and implement an integrated vegetation mitigation plan to compensate for removal of vegetation, including SRA habitat. Successful implementation of this measure and proposed reductions in in-channel vegetation maintenance throughout all project reaches, would result in an overall net increase in overwater vegetation, provide for more continuous shading over the entire project area, reduce the impact to a less-than-significant level and be consistent with the USFWS requirement of "no net loss of aquatic habitat values or acreage."~~

Mitigation Measure F-1: Replace Affected Undercut Banks and SRA Cover Habitat On Site. The District would mitigate construction-related impacts on undercut banks and SRA cover habitat associated with vegetation clearing during construction by implementing the following specific measures:

Plant 4,886 Linear Feet of Streamside Vegetation and Construct Undercut Banks. In association with replanted riparian vegetation, the District would replace 4,886 linear feet of streamside vegetation. Streamside vegetation plantings are riparian vegetation plantings that occur within 15 feet (horizontal distance) of the edge of the wetted channel (i.e., summer low flow channel). Locations of proposed revegetation sites, which include SRA cover mitigation sites, are presented in Plates V-41 through V-54 (in Volume II of the Draft EIR/EIS), revised Plates in Volume V of the Final EIR/EIS, and Exhibit A of the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS). During the first three years of construction, a total of 4,507 linear feet of SRA cover mitigation will be planted (Reaches 6, 7, 10B, and 12). This is 92% of the proposed mitigation before 9% of the SRA cover impacts have occurred (Figure 4.14-6).

SRA cover habitat, represented by overhead vegetation and undercut bank in this analysis, is a Resource Category 2 habitat. The USFWS's mitigation goal for a Resource Category 2 habitat is no net loss of linear feet, area, and habitat value. USFWS, in their draft Coordination Act Report, concluded that instream and overhead cover variables should be replaced at a ratio not less than 1:1 in terms of linear feet, area, and habitat value (U.S. Fish and Wildlife Service 1993). Implementing the proposed mitigation measures would result in no net loss of overhead vegetation and undercut bank.

Table 4.14-6 summarizes existing and affected overwater vegetation by reach and post-project revegetation that would result from implementing Mitigation Measure V-1. ~~In association with replanted riparian vegetation, the District would replace 5,096 linear feet of overwater vegetation. SRA habitat, represented by overhead vegetation and undercut bank in this analysis, is a Resource Category 2 habitat. The USFWS's mitigation goal for a Resource Category 2 habitat is no net loss of linear feet, area, and habitat value. USFWS, in their draft Coordination Act Report, concluded that instream and overhead cover variables should be replaced at a ratio not less than 1:1 in terms of linear feet, area, and habitat value (U.S. Fish and Wildlife Service 1993). Implementing the proposed mitigation measures would result~~

~~in no net loss of overhead vegetation and undercut bank.~~ Mitigation values for SRA vegetation were computed by planimetering the length of stream on the plate volumes where mitigation plantings (i.e., woody riparian) is proposed for planting. Only plantings proposed within 15 feet (horizontal distance) of the low flow channel were considered in the tabulation, based on input received by the USFWS. SRA cover mitigation quantities reported in the Draft EIR/EIS were determined by multiplying the length of stream, where revegetation with riparian species that were within the 15-foot criteria was proposed, by a factor of 0.85. This 0.85 factor takes into account that gaps in canopy cover that will occur as the planted vegetation reaches maturity. In other words, the actual length of bank that is proposed for revegetation exceeds the amount of SRA needed by about 18-percent to ensure that the minimum 1:1 replacement ratio of SRA cover is met at vegetation maturity. The 0.85 multiplier was empirically derived by comparing SRA cover length to natural bank length in a section of stream near downtown San Jose that supported mature riparian vegetation. ~~Locations of proposed revegetation sites, including SRA cover mitigation sites, are presented in Plates V-41 through V-53 (in Volume II). In combination with proposed improvements to fish passage conditions on Guadalupe Creek (below), these measures will result in a net increase in available SRA habitat.~~

The District will monitor SRA planting sites over the life of the project (i.e., annually for the first 5 years and every 5 years after for a total of 40 years) to ensure that they achieve the minimum 50% shade assumed in the analysis.

The District would mitigate for the loss of 1,720 linear feet of undercut banks through a combination of several factors. For example, undercut banks would be expected to form in natural bank areas of reaches where streamside vegetation plantings are proposed (e.g., Reaches 7, 9, 10B, and 11B). At least 4,886 linear feet of new vegetative cover would be established along affected banks, which is almost three times the number of linear feet needed for the loss of undercut bank. In addition, in Reach 11 the District would, in consultation with DFG, NMFS, and USFWS, design and install approximately 600 feet of appropriate revetment materials to create undercut-bank habitats. Undercut banks would be constructed using native materials, such as rootwads with attached tree trunks or other materials approved by the resource agencies (i.e., DFG, NMFS, USFWS). The combination of natural regeneration of undercut banks resulting from revegetation and undercut-bank construction would provide the necessary 1:1 replacement ratio needed to ensure no net loss of this habitat feature. See the mitigation and monitoring plan (Volume VIII) for the design concepts for constructed undercut bank features. These plans will be coordinated with NMFS.

Because construction of undercut banks would be limited to areas already affected by project construction or areas without SRA cover (and in most cases integrated into the construction of the project feature), no new impacts on SRA cover would be expected to occur. Construction of undercut banks would provide immediate benefits to fish, while the combination of SRA cover vegetation plantings and naturally occurring undercut banks would provide fish with benefits over the long-term. This measure would provide for no net loss of undercut banks. Mitigation areas having constructed undercut banks would be evaluated annually for five years and then once at 10, 15, and 20 years post-construction to determine whether created undercut banks are functioning properly. If monitoring determines that constructed undercut banks are not meeting their intended goal, the District would consult with DFG and USFWS, initiate remedial actions, and continue monitoring for an additional five years. Remedial actions could include redesign of revetment or other appropriate mitigation based on negotiations with DFG and USFWS.

In addition, the effects of losing undercut banks, overhead cover and stream shading on fish would be further compensated by implementing Mitigation Measure V-1, which recommends that the District prepare and implement an integrated vegetation mitigation plan to compensate for removal of vegetation, including SRA habitat. Successful implementation of this measure and proposed reductions in in-channel vegetation maintenance throughout all project reaches, would result in an overall net increase in overwater vegetation and undercut banks, provide for more continuous shading over the entire project area, provide additional assurances that impacts would be reduced to a level of insignificance and be consistent with the USFWS requirement of "no net loss of aquatic habitat values or acreage."

The District will monitor water temperatures continuously (except during the rainy season; October 1 through April 30) at the downstream end of Reaches 10C and 9. Monitoring will occur pre-construction and post-construction in order to assess whether overall water temperatures are increasing by more than the amount expected in this analysis. If temperatures exceed expectations and can be attributed to project construction, the District will coordinate with USFWS, NMFS, and DFG regarding remedial actions to be taken. The monitoring will continue until it can be demonstrated that overall temperature increases due to the project are not more than the amount expected in this analysis.

Page 4.14-42. The last paragraph is deleted.

~~Implementing these measures would result in a 1:1 replacement of overwater vegetation. USFWS, in their draft Coordination Act Report, concluded that instream and overhead cover variables should be replaced at a ratio not less than 1:1 in terms of linear feet, area, and habitat value (U.S. Fish and Wildlife Service 1993). Locations of proposed revegetation sites, including SRA cover mitigation sites, are presented in Plates V-41 through V-53 (in a separate volume).~~

Table 8.1 will be modified to reflect the clarifications made to Mitigation Measure F-1 above and to reflect the information in the Mitigation and Monitoring Plan (Volume VIII).

Response to Comment 2-42

The comment states that Cumulative Impact Mitigation Measure Cf-1 needs to be modified to describe the actual impact that is being mitigated since this measure is identified for the Downtown project.

See Master Responses F and L.

COMMENT LETTER 3 - UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION IX, DAVID FARREL (APRIL 18, 1997)

Response to Comment 3-1

The comment states a concern that the project's purpose is limited to "flood control" rather than one which "could achieve multiple beneficial environmental objectives," and encourages reconsideration of the Stream Restoration Alternative.

The Preferred Project and the MVI Alternative focus on different ways to achieve the principle goal of flood control while also providing for multiple beneficial environmental objectives (e.g., reduced erosion, improved habitat connectivity, implementation of geomorphological channel improvements in Reach 10B, and improved fish passage). The Stream Restoration Alternative has been reconsidered; see Master Response A for further discussion.

Response to Comment 3-2

The comment requests a full analysis of indirect and cumulative impacts; an expanded discussion of wetland and riparian-related mitigation; an analysis of impacts associated with herbicide use; a quantification of air emissions associated with construction activities, as it relates to the potential need for a conformity analysis pursuant to the Clean Air Act; and adoption of pollution prevention measures.

The comment is a summary of subsequent detailed comments addressed below. For a discussion of indirect and cumulative impacts, refer to Responses to Comments 3-6 and 3-13. For a discussion of wetland and riparian-related mitigation, refer to Response to Comment 3-11. For a discussion of impacts associated with herbicide use, refer to Responses to Comments 3-15 and 3-16. For a discussion of air quality conformity, refer to Response to Comment 3-18. For a discussion of pollution prevention measures, refer to Response to Comment 3-19.

Response to Comment 3-3

The comment states that the letter's comments form the basis for EPA's rating of EC-2, Environmental Concerns - Insufficient Information and requests a copy of the Final EIR/EIS.

See Responses to Comments 3-2 and 3-4 through 3-26. The additional information requested by the EPA has been provided in these Responses to Comments. A copy of the Final EIR/EIS has been mailed to the EPA, Region IX.

Response to Comment 3-4

The comment recommends a multi-objective approach to resolving the flood control problem on the Upper Guadalupe River and an expanded discussion of the river's long-term viability. The comment recommends discussion of functions of the riverine system that may be potentially affected by the project, including dynamic and long-term surface water storage, *nutrient cycling, energy dissipation, maintenance of characteristic plant communities, spatial habitat structure and habitat connectivity.*

The Preferred Project and the MVI Alternative focus on different ways to achieve the principle goal of flood control while also providing for multiple beneficial environmental objectives (e.g. reduced erosion, improved habitat connectivity, implementation of geomorphological channel improvements in Reach 10B, and improved fish passage). With the net gain in SRA and riparian habitat under the project, the river and its adjacent habitat would likely increase its ability to store surface water and would provide for a net gain in nutrient cycling. Energy dissipation and sediment transport are addressed in Master Response C. The project would result in a net gain in riparian habitat quality; fragmentation would decrease substantially, habitat connectivity would increase, and native trees and shrubs would increase (see p. 4.12-21 of the Draft EIR/EIS). The project, after mitigation, would also result in a decrease in water temperatures throughout the project area compared to the pre-project condition and a net gain in fisheries habitat (see Master Responses H and K).

Response to Comment 3-5

The comment requests a full analysis of the Stream Restoration Alternative, including maintenance cost.

See Master Responses A and D.

Response to Comment 3-6

The comment expresses concern that reduced flood flows will diminish future reestablishment of riparian vegetation.

Floods will continue to occur within the project area and will continue to influence the dispersal, germination, and growth of riparian vegetation. Unlike the Sacramento River, where dams have *reduced* peak flows, the Guadalupe River project will improve *conveyance* of peak flows. The bypass channels have been designed to begin diverting streamflows only above the bankfull discharge, thereby minimizing the effects on channel dynamics and riparian vegetation associated with flow reduction. Flooding in areas beyond the tops of banks will be less frequent; however, such floods provide little benefit to riparian vegetation because the affected areas are mostly developed or cleared lands without riparian vegetation.

Response to Comment 3-7

The comment expresses concern that the bypass channels will result in changes to the natural channel because of changes in water velocity and sediment distribution in the main channel.

The Draft EIR/EIS does consider the potential for adverse effects on fisheries habitat from potential changes in sediment distribution. The Draft EIR/EIS concluded that sediment transport would not be compromised because the entrances to the bypass channels is set high enough to allow only flows in excess of 1,500 cfs to enter the channel. Table 4.14-4 shows the frequency that the bypass channels would have flow over a 19-year period of record. Table 4.14-4 is not intended to show the duration that the bypass channels will have flow.

Flows in excess of 1,500 cfs are expected to occur for much less than a day (typically from a fraction of one hour to several hours duration). See Master Response E.

Response to Comment 3-8

The comment concludes that bypass channels would have greater impact on the stream channel, and that armoring a channel with hardscape will impact opposite stream bank.

The EIR/EIS authors disagree. Bypass channels as designed are expected to recreate a "floodplain function" and reduce the stress and impact to the natural stream channel. The current design of the bypass channels is that only flows above bankfull flow will enter the bypass channel. Therefore, during high flows, the stress caused by these high flows in the existing natural channel will be reduced by dissipating the flows into the bypass channel. Flows below bankfull flow, the channel forming and sediment transport flow, will always continue in the natural channel, and therefore not affecting the current state of the natural channel. The acreage of impacts due to the MVI alternative are described and shown in the Engineer's Report.

The EIR/EIS authors concur that hardscaping a bank would limit the opportunity to establish natural vegetation communities. However, the EIR/EIS authors disagree that any armoring of a channel will necessary impact the opposite bank. The Preferred Project proposes to follow a best management practices maintenance protocol as stated in Chapter 3 of the Draft EIR/EIS. Hardscaping is only proposed where softer methods are not applicable or would not be durable as determined through a systematic progressive site evaluation.

Response to Comment 3-9

The comments requests that habitat losses associated with bypass channel entrances and exits be included in the analysis.

Vegetation losses (and corresponding SRA cover impacts) associated with the entrances and exits of the bypass channels were accounted for in the riparian habitat and SRA cover impact analyses and are reflected in the impact tables as overhead vegetation and undercut bank losses.

Response to Comment 3-10

The comment states that there is confusion in the description of the routine maintenance impacts and mitigations.

The routine maintenance for this project is described in Appendix C of the Draft EIR/EIS. The impacts and mitigation measures for the maintenance activities are described in the Draft EIR/EIS. The text in the Draft EIR/EIS has been revised so not to cause any confusion regarding the proposed maintenance program. Refer to Master Response C.

Response to Comment 3-11

The comment encourages the adoption of a 2:1 mitigation ratio for impacts to wetlands, other waters, and urban forest; a clear distinction between SRA habitat and riparian *mitigation; and a long-term mitigation and monitoring plan. The comment also requests a clear distinction be made between the mitigation for the Downtown project and the Upper Guadalupe River Flood Control Project.*

Mitigation plantings would outpace impacts on urban forest and wetland habitats early in the project. Reaches 6, 10B, and 12, which together contain almost 60 percent of the proposed urban forest mitigation, would be the first reaches constructed. Reach 12 also contains 100 percent of the proposed wetland mitigation acreage, but less than 2 percent of the wetland impacts. Therefore, the lag time between loss of habitat value and full compensation would be greatly minimized and a 1:1 mitigation ratio would be appropriate.

Regarding SRA habitat and riparian mitigation, refer to Response to Comment 2-3. Regarding long-term mitigation and monitoring, see the Habitat Mitigation and Monitoring Plan (Volume VII). Regarding mitigation for the Downtown project and the Upper Guadalupe River Flood Control Project, see Master Response F.

Response to Comment 3-12

The comment requests that the Draft EIR/EIS identify which of the action alternatives, the Preferred Project and the MVI Alternative, is considered by the Corps to be the least environmentally damaging practicable alternative (LEDPA) pursuant to Clean Water Act Section 404(b)(1).

Refer to Response to Comment 2-13.

Response to Comment 3-13

The comment states that the Draft EIR/EIS does not discuss indirect and cumulative impacts, in particular, riparian habitat lost due to the Downtown Guadalupe River Flood Control Project; other projects underway, such as the District's 1996 permit application for bank stabilization efforts; and future maintenance work.

Refer to Response to Comment 3-6 for a discussion of indirect impacts. Riparian habitat expected to be lost due to the Downtown project and other proposed projects on the Guadalupe River are addressed in Chapter 5 (see Table 5-1) of the Draft EIR/EIS.

The 1996 permit application for bank stabilization efforts pertains to an emergency bank stabilization project downstream of the Virginia Avenue bridge that was completed in 1997 under permits from the Corps, RWQCB, and DFG.

Future maintenance work on the Upper Guadalupe River Flood Control Project is addressed in the Draft EIR/EIS in Chapter 3 (page 3-46). See also Master Response C.

Response to Comment 3-14

The comment requests that the Draft EIR/EIS identify which of the action alternatives, the Preferred Project and the MVI Alternative, is considered by the Corps to be the least environmentally damaging practicable alternative (LEDPA) pursuant to Clean Water Act Section 404(b)(1).

Refer to Response to Comment 2-13.

Response to Comment 3-15

The comment states that the project would result in increased herbicide use and requests more definitive conclusions about whether herbicide use would adversely affect water quality. The comment also requests specific information on proposed herbicide use and public notification regarding herbicide use.

Although herbicide use for maintenance of roads and access ramps would increase with increased area of these facilities, herbicide use in the channel is expected to decrease from current levels because less vegetation removal would be required. Refer to Master Response C for details on herbicide use, and for information on safety of herbicides. Use of herbicides is not expected to adversely affect water quality.

The District has no policy regarding public notification other than that required for use of the particular material. The District is currently developing an Environmental Impact Report, which evaluates all maintenance practices, including herbicide use, in a detailed manner. The possibility of including notification as part of the District's Best Management Practice will be considered as part of the Maintenance Program EIR.

Response to Comment 3-16

The comment asks whether use of herbicides is consistent with requirements of the Water Quality Control Plan regarding toxic substances.

The use of herbicides as proposed for the project is consistent with the Water Quality Control Plan. The herbicides used by the District have been documented not to be toxic to aquatic organisms when used appropriately.

Response to Comment 3-17

The comment requests that lead-based paint encountered during demolition activities be discussed.

The District will comply with applicable regulations such as Cal OSHA regulations (California Code of Regulations, Title 8, Subsection 1532.1) regarding lead exposure in construction. This applies to all construction work where employees could potentially be exposed to lead, including demolition of structures where lead could potentially be present. The contractor will be responsible for appropriate disposal of materials from demolition.

Response to Comment 3-18

The comment states that the EIR/EIS should determine whether a conformity analysis needs to be conducted for carbon monoxide (CO) and two ozone precursors, nitrogen oxides (NO_X), and volatile organic compounds (VOC), and specifies that construction-related emissions need to be included in the calculations.

The Draft EIR/EIS presented the daily air emissions by reach for fugitive dust and construction equipment using Bay Area Air Quality Management guidance. It is expected that for the most part reaches would be constructed one at a time. However, there is the possibility that during the early stages of the project that Reaches A, 6, and 12 could be constructed at the same time. Assuming that construction occurs 8 months out of the year, annual emissions from construction equipment for these three reaches would be approximately 54 tons of CO, 4 tons of ROG, and 17 tons of NO_x.

As mentioned in the Draft EIR/EIS, there will also be some emissions generated by material transport vehicles and possible traffic congestion, but it is expected that these emissions would be less than the emissions from the construction equipment. Due to the limited nature of information on these activities, these emissions were not estimated in the Draft EIR/EIS. However, an attempt is being made to estimate these emissions in general terms to help support this response.

SCVWD personnel, based on experience with similar projects, estimate that this project will probably use 30 trucks per day, with each truck making 4 trips per day. Assuming the 120 truck trips per day, emissions will be approximately 20 tons of CO, 3 tons of ROG, and 9 tons of NOx from construction trucks.

As stated in the traffic section of the Draft EIR/EIS, proposed modifications in Reaches A and 12 would not affect traffic or circulation because no roadways in these reaches need to be closed or replaced. Reach 6 will require that Virginia Street be closed during construction. Traffic information suggests that nearby roadways are not operating at full capacity and as such can accommodate the re-routed traffic with little congestion. If we estimate a conservative scenario where 2,000 vehicles per day are caused to idle an additional 15 minutes per day, that would result in approximately 22 tons per year of CO, 3 tons of ROG, and 1 tons of NOx.

Based on the above assumptions, this project would not trigger a general conformity determination. Project activities would not exceed the 100 tons per year de minimus threshold for carbon monoxide (CO), reactive organic compounds (ROG), or nitrogen oxides (NO_x).

ANNUAL PROJECT EMISSIONS OF CARBON MONOXIDE, REACTIVE ORGANIC GAS, AND NITROGEN OXIDES (IN TONS/YEAR)

Activity	CO	ROG	NOx
Construction Equipment	54	4	17
Material Transport Trucks	20	3	9
Traffic Congestion	22	3	1
Total	96	10	27

Response to Comment 3-19

The comment requests that the project address pollution prevention mechanisms, and references a pollution prevention checklist.

The purpose of the proposed project is to provide flood protection for an existing urban area that is essentially built-out. The project would not result in increased surface water runoff or non-point source pollution. Because the flood-prone area is already urbanized, levee setbacks and broad floodways were not included in this project.

As part of this EIR/EIS process the District has characterized sensitive riparian habitat, shaded riverine aquatic areas, wetlands, and other important resources. The proposed project has evolved over the past ten years and has been designed to avoid impacts to these resources and to provide ample mitigation when impacts to the resource cannot be avoided.

The plan includes the use of native plant species for revegetation where appropriate. The needs of wildlife were considered in the proposed design and construction plans for the project. Several biotechnical methods and soft-scape elements are proposed as part of the project. Construction staging and materials storage is proposed to be located away from the river channel.

The proposed Maintenance Program presented in the Draft EIR/EIS in Appendix C, Volume III includes a detailed description of the project maintenance plan. The goal of the District's standard procedures for both construction and channel maintenance is protection of riparian habitat and minimization of adverse water quality impacts.

Response to Comment 3-20

The comment states that because of the potential extended schedule for construction, the Final EIR/EIS and Record of Decision should contain a clear commitment that subsequent environmental documentation will be prepared as each phase becomes ripe for implementation or if circumstances change substantially.

The District, as indicated in Chapter 3 (page 3-43) of the Draft EIR/EIS, has committed to assess the applicability of the EIR/EIS over the course of the construction to ensure that no significant changes to the impacts identified in the Draft EIR/EIS have occurred.

Response to Comment 3-21

The comment notes that the remaining residents of the McLellan/Palm Street area who are subject to relocation are 69 percent Hispanic, and that the FEIS should contain a discussion of Environmental Justice.

In 1994, President Clinton issued a special Executive Order to raise awareness and bring environmental justice issues into public policy debate. Environmental Justice has been defined by a variety of organizations and public agencies with an interest in the topic. The underlying goal of examining Environmental Justice issues in NEPA documents is to identify potential disproportionately high and adverse effects and identify alternatives that may mitigate these impacts.

The U.S. Army Corps of Engineers is the federal lead agency on this project under NEPA and is thus responsible for ensuring that environmental justice issues are addressed.

The following section has been added to the Draft EIR/EIS:

Page 7-2. The following text is added at the end of Chapter 7:

7.5 ENVIRONMENTAL JUSTICE

Regulatory Setting

In response to growing public concern and evidence that low-income and minority communities suffer disproportionately from exposure to unhealthy environmental conditions, President Clinton issued an Executive Order in 1994 to raise awareness and bring environmental justice issues into public policy debate. Executive Order 12898 requires that

> "to the greatest extent practicable...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations."

The goal of environmental justice is "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies." The intent is to avoid shifting risks among populations, to identify potential disproportionately high and adverse effects, and devise alternatives to mitigate these impacts.

The order reiterates that federal agencies must analyze the environmental effects, including human health, economic, and social effects of its actions, including their effects on minority and low-income communities, when such analysis is required by the National Environmental Policy Act (NEPA). The U.S. Army Corps of Engineers is the federal lead agency on this project under NEPA and is thus responsible for ensuring that Environmental Justice issues are addressed.

In applying Executive Order 12898 to NEPA documentation, two questions must be examined: (1) Is a federal project with significant adverse environmental impacts being proposed in a community comprised largely of minority or low-income persons; and (2) would any adverse human health or environmental effects of the project disproportionately affect minority or low-income persons?

The Executive Order does not mandate special mitigation measures for environmental justice impacts, and there is no formal, commonly accepted significance criterion. However, the Presidential Memorandum accompanying the Executive Order does direct federal agencies to include measures to mitigate disproportionately high and adverse environmental effects of proposed federal actions on minority and low-income populations. This analysis examines environmental effects of the proposed project and project alternatives that could cause disproportionately high and adverse human health or environmental impacts on the residents living along that portion of the Guadalupe Corridor that encompasses the proposed project.

Characteristics of Project Area

The Upper Guadalupe River Flood Control project is geographically based. The project site and project alternatives follow the outline of the river and its banks. In the project vicinity, the river flows through agricultural, residential, commercial, industrial, and open space areas. Historically these areas have been affected by flooding which has caused extensive property damage.

The Guadalupe River flows through 15 different census tracts in the project area. The most recent available statistics for these census tracks are contained in the 1989 Census. The race and income statistics are contained below in Tables 7.1 and 7.2. Data are presented both for the entire San Jose Primary Metropolitan Statistical Area (PMSA) and for census tracts along the Guadalupe River. An average over all affected census tracts is also presented

The ethnic composition within those tracts ranges from 39 to 88 percent White, 7 to 55 percent Hispanic, 0 to 6 percent Black, and 3 to 14 percent Asian. The statistics for the San Jose PMSA as a whole are 58 percent White, 4 percent Black, 21 percent Hispanic and 17 percent Asian. Of the 117 residences that would require dislocation within the project area, 86 residences have been voluntarily sold to the Santa Clara Valley Water District. Thirty-one households in two areas, the McLellan/Palm Street area and the Mackey/Malone/Almaden Road area, remain to be relocated. The census track that contains the McLellan/Palm Street area is 41 percent White, and 55 percent Hispanic. The census track that contains the Mackey/Malone/Almaden Road area is 80 percent White and 16 percent Hispanic. Median incomes for households in these two areas are $37,550 and $52,958, respectively.

The project purpose is to reduce damage to people and property as a result of flooding along the upper Guadalupe River, Ross Creek, and Canoas Creek. This necessitates the conversion of residential, commercial and industrial land use to open space, dedicated to flood control. All of the project alternatives require the same right-of-way. The position of the alternative alignments is based on the physical constraints imposed by the river. The affected project areas were not targeted for their ethnic or socio-economic make up of residents, but for their location. The District's Property Management Plan was developed to address mitigation potential adverse impacts to neighborhoods, and the relocation of residents.

The affected portion of the Guadalupe River flows through an approximate 6.4-mile section of the City of San Jose, which contains primarily White, middle income households. The project will not have a disproportionate adverse effect in a community comprised largely of minority and low-income persons. On the contrary, it should benefit the majority of households within the project area.

TABLE 7.1

ETHNIC ORIGIN (IN PERCENTAGE)

Location	White	Black	Hispanic	Asian	Native	Other
San Jose PMSA	58	4	21	17	0	0
Census tract:						
5018	41	1	55	3	0	0
5019	61	6	27	6	0	0
5023	78	3	15	3	0	0
5024	80	1	16	3	0	0
5025	84	1	11	3	0	0
5029.09	77	3	13	7	0	0
5029.10	74	3	16	6	0	0
5030.01	88	0	7	4	0	0
5030.02	77	2	7	7	0	0
5030.03	79	0	12	8	0	0
5031.03	39	4	44	13	0	0
5031.08	52	4	34	8	1	0
5051	39	1	49	9	0	0
5120.05	70	3	12	14	0	0
5120.24	74	3	12	10	0	0
Average of affected tracts	67.53	2.33	22.00	6.93	0	0

TABLE 7.2

MEDIAN INCOME FOR HOUSEHOLDS

Location	Household Income	Per capita Income	% Below Poverty Level
San Jose city-wide	50,281	19,560	4.5
Census tract:			
5018	37,550	14,741	11.9
5019	46,932	18,951	8.8
5023	49,355	22,509	5.4
5024	52,958	22,105	4.9
5025	52,685	22,534	5.4
5029.09	47,553	19,403	3.6
5029.10	46,424	18,727	5.6
5030.01	59,501	23,995	1
5030.02	46,250	20,408	3.3
5030.03	57,047	19,322	2.6
5031.03	29,583	12,438	16.5
5031.08	34,700	14,280	15.2
5051	39,714	13,695	7.4
5120.05	60,939	19,087	4.6
5120.24	56,131	20,127	4.8
Average of affected tracts	$47,802	$18,821	6.73

Response to Comment 3-22

The comment is correct that the project must comply with the Water Quality Control Plan.

The following change is made to the Draft EIR/EIS:

Page 9-4. The following sentence is added to the last paragraph of the discussion of the Clean Water Act:

> The proposed project would comply with the Water Quality Control Plan development by the State of California and approved by the U.S. EPA under the Clean Water Act.

Page 11-3. The following listing is added to the reference section:

> California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region 1994, Water Quality Control Plan, San Francisco Bay Basin, 1986, as amended 8/17/94

Response to Comment 3-23

The comment is correct that the District complies with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

The following change is made to the Draft EIR/EIS:

Page 9-4. The following text is added as the third full paragraph:

> Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)
>
> The District is required to comply with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) which regulates the proper handling, use and disposal of herbicides. Use of herbicide in project construction and maintenance would be consistent with FIFRA and California State regulations pertaining to herbicide use.

Response to Comment 3-24

The comment states that Executive Order 12898 (Environmental Justice) should be added to the list of environmental review and consultation requirements in Chapter 9 of the Draft EIR/EIS.

The following change is made to the Draft EIR/EIS:

Page 9-3. The following text is added immediately preceding the section on Clean Water Act (PL95-217 and 404(b)(1):

> Executive Order 12898 - Environmental Justice
>
> Executive Order 12898 requires that Federal agencies must analyze the environmental effects, including human health, economic, and social effects, of its actions, including their effects on minority and low-income communities, to ensure that project are not disproportionately affecting minority and low-income communities.
>
> As identified in Section 7.5, the project is in compliance with the order, because low income and minority communities are not disproportionately affected by the project. The project would provide flood control benefits to all of the households within areas currently subject to flooding by the Guadalupe River.

See Response to Comment 3-21.

Response to Comment 3-25

The comment is correct that appropriate approval would be required by the Regional Water Quality Control prior to project construction.

The following change is made to the Draft EIR/EIS:

Page ES-20. Table 3 is modified to add the following entry:

Table 3
Major Permits and Approvals
Guadalupe Flood Control Project

Agency	Permit Required
Regional Water Quality Control Board	Certificate of compliance with Section 401 of the Clean Water Act Approval of stormwater discharge

Response to Comment 3-26

The comment is correct regarding air quality status of the project area.

The following change is made to the Draft EIR/EIS:

Page 4.9-1. The second sentence of the third paragraph is modified as follows:

> The area is currently designated by the United States Environmental Protection Agency (EPA) as a non-attainment area for carbon monoxide and a maintenance area for ozone.

COMMENT LETTER 4 - DEPARTMENT OF THE ARMY, U.S. ARMY ENGINEER DISTRICT, SACRAMENTO, CORPS OF ENGINEERS, LEWIS A. WHITNEY (APRIL 4, 1997)

Response to Comment 4-1

The comment states that the project upstream of I-280 will not function until the downtown project and the reach from I-880 to Alviso are completed.

The EIR/EIS authors agree.

Response to Comment 4-2

The comment states that the District has agreed to insure that the channel improvements from I-880 to the San Francisco Bay is completed before the downtown project is complete.

The EIR/EIS authors agree.

Response to Comment 4-3

The comment understands that the District is proceeding to complete the channel improvements in Reach A as stated in the LCA.

The EIR/EIS authors agree.

COMMENT LETTER 5 - STATE OF CALIFORNIA, DEPARTMENT OF FISH AND GAME, BRIAN HUNTER (APRIL 17, 1997)

Response to Comment 5-1

The comment recommends that the MVI Alternative be adopted.

See Master Response B.

Response to Comment 5-2

The comment clarifies significance criteria for impacts on species that are candidates for state listing.

The EIR/EIS authors concur.

The following changes are made to the Draft EIR/EIS:

Page 4.12-17. revise the fourth bulleted item under "**Significance Criteria**" to read:

> direct mortality, permanent habitat loss, or lowered reproductive success for:
>
> - individuals of state-listed or federally-listed threatened or endangered plant species, candidates for federal listing, or

Page 4.13-17. Revise the fourth bulleted item under "**Significance Criteria**" to read:

> - Direct mortality, habitat loss, or lowered reproductive success for individuals or substantial portions of local populations of candidate species for state or federal listing or California species of special concern;

Page 4.14-24. The last paragraph is replaced with the following:

> The primary reason for establishing significance criteria is to satisfy the California Environmental Quality Act (CEQA) requirement to determine the thresholds at which the magnitude of effects of project actions constitutes significant adverse impacts. Impacts are significant when project actions cause or contribute to substantial short- or long-term adverse changes in aquatic ecosystem structure and processes and degrade conditions that potentially reduce abundance and distribution of species populations.
>
> Thresholds are phrased in qualitative or quantitative terms indicating potential changes from either existing conditions or conditions under the No-Action Alternative. A project adverse effect is found to be significant, based on CEQA Guidelines Sections 15065(a) and 15380(d), if it:
>
> - substantially degrades aquatic ecosystem processes;

- substantially changes structural characteristics of the aquatic ecosystem in an adverse direction;
- substantially degrades conditions affecting or potentially affecting the abundance or range of a rare, threatened, and endangered species or a species having economic or social value; or
- has considerable cumulative effects when viewed with past, current, and reasonably foreseeable future projects (i.e., any project effect that clearly contributes to existing significant cumulative adverse impacts is considered significant).

Impacts were considered less than significant ...

Response to Comment 5-3

The comment requests that designs for fish passage improvements and culverts must conform to engineering and construction specifications approved in writing by the California Department of Fish and Game prior to construction.

The EIR/EIS authors concur.

The following change is made the Draft EIR/EIS.

Page 4.14-27. The following is added after the third paragraph:

> The District will continue to coordinate with and submit design plans to the California Department of Fish and Game and the National Marine Fisheries Service during the design of fishways and barrier modifications. Furthermore, the District will seek written approval from the resource agencies prior to initiating construction of fishways and barrier modifications.

Response to Comment 5-4

The comment recommends remediation of the partial barriers in Reach 10C and 11B concurrent with the laddering of the Alamitos drop structure.

Refer to Response to Comment 2-11.

Response to Comment 5-5

The comment requests that the culverts in the bypass channel be constructed to include fish passage.

The EIR/EIS authors concur and plans have been revised.

Response to Comment 5-6

The comment requests clarification of the fish passage mitigation measures particularly with regard to which are project features, project impact mitigation, and cumulative impact mitigation.

See Master Response K and L.

Response to Comment 5-7

The comment states that the proposed mitigation bank must be located along the Guadalupe River within Reaches 6 through 12, must be established at the earliest reasonable stage of project construction, and must be consistent with the mitigation bank guidelines of DFG and USFWS.

The authors of the Draft EIR/EIS concur. As indicated in the Draft EIR/EIS on page 3-47, a Mitigation Bank Agreement that stipulates the operation and maintenance of the mitigation bank will be developed in consultation with and with the approval of USFWS and DFG. Refer to Response to Comment 2-3.

Response to Comment 5-8

The comment stated that the EIR/EIS concluded that impacts on yellow warbler habitat were not considered to be a significant impact based on text on page 4.12-25.

Impact WL-7 on page 4.13-22 "Loss of Yellow Warbler Breeding Habitat" concluded that implementing the proposed project would eliminate some suitable yellow warbler nesting and foraging habitat along Reaches 6, 7, 8, 9, 10A, 10B, 11A, 11B, and 11C. This impact was considered significant because DFG includes the yellow warbler on its list of species of special concern and the project could eliminate a substantial amount of occupied breeding habitat, resulting in a substantial decline of breeding yellow warblers along the Guadalupe River. The Draft EIR/EIS recommended the implementation of Mitigation Measure WL-7 (Mitigation Measures V-1 and V-2). These mitigation measures recommend that the District implement an integrated vegetation mitigation plan, a public education program, and a vegetation protection plan for riparian and urban forests.

To correct the discrepancy on page 4.12-25, the following change is made to the Draft EIR/EIS:

Page 4.12-25. The second and third full paragraphs are modified as follows:

> This impact is considered less than significant because: 1) most of the vegetation affected is not native, 2) all three habitats are locally and regionally common, and 3) most areas of temporary disturbance (approximately half of the total impact) would recover naturally within a few years, and 4) some of these sites are human-caused gaps in the riparian forest and would be replanted with riparian forest in the mitigation program. The USFWS Coordination Act Report (U. S. Fish and Wildlife Service 1993) considers ruderal scrub in the project area to be important habitat for the yellow warbler, a migratory songbird, and recommends mitigation to achieve no

net loss of habitat value~~; however, the impact on yellow warbler habitat is not considered significant under CEQA..~~

~~No mitigation is required; however, t~~The District plans to implement other mitigation measures that should address USFWS concerns regarding impacts on yellow warbler habitat. Specifically, some areas of impact on ruderal vegetation will be replanted with riparian vegetation as part of Mitigation Measure V-1, and blackberries (ruderal scrub) and other shrubs will be planted in pockets along some stepped gabions for mitigation of visual/aesthetic impacts.

Responses to Comments 5-9 and 5-10

The comment from DFG recommends burrowing owl surveys over at least four consecutive evenings during the breeding season (April 15-July15) and over four evenings between December 1 and January 31 for winter residents. The comment recommends mitigation for the loss of burrowing owl habitat if occupied habitat cannot be avoided.

A qualified biologist conducted four surveys in 1995 during the breeding season, as recommended by DFG, although no winter surveys were conducted at that time. The burrowing owl breeding season surveys were conducted along Reaches A and 12 on June 20 and 27, and July 6 and 13, 1995. The survey methods complied with DFG's burrowing owl guidelines. No burrowing owls were observed during the 1995 breeding season surveys.

Although burrowing owls were not observed during the breeding season field surveys, they could be present during the winter or they could move into the affected area before construction begins. Because it is not certain what year construction will begin, a single year survey and the proposed preconstruction surveys alone may be inadequate to determine if the affected area is occupied burrowing owl habitat. DFG burrowing owl guidelines suggest that if an area once supported burrowing owls, but is not occupied for 3 years, it could be considered unoccupied habitat. Therefore, the District proposes modifying the approach for the burrowing owl surveys. Rather than conducting winter surveys and breeding season surveys for one year, the EIR/EIS authors recommend conducting surveys every year before and during construction. A minimum of 3 consecutive years is recommended.

If the survey results indicate that burrowing owls occupy the affected areas (Reaches 12 and A) during the winter or breeding season and the occupied habitat cannot be avoided, then the District would compensate for the loss of occupied burrowing owl habitat.

The following changes are made to the Draft EIR/EIS:

Page 4.13-23. Mitigation Measure WL-8: Conduct Burrowing Owl Survey and Avoid Adverse Impacts on Burrowing Owls if Present, is modified as follows:

> **Mitigation Measure WL-8: Conduct Burrowing Owl Survey and Avoid Adverse Impacts on Burrowing Owls if Present.** The District should conduct burrowing owl surveys, beginning the fall before start of construction, for a minimum of 3 years, until construction has been completed in Reaches 12 and A. The surveys should be conducted during the nonbreeding season (December 1-January 31) for winter

residents and breeding season (April 15-July15) for nesting owls. The surveys should be conducted over four evenings or early in the morning during both the nonbreeding and breeding seasons for a total of eight surveys each year. ~~The District should conduct burrowing owl surveys in Reach 12 and Reach A during the nonbreeding season (September-January) and~~ During the year of construction, the preconstruction surveys should be conducted ~~no more than~~ about 2-4 weeks before construction begins to determine whether burrowing owls are occupying the project site before construction. Within 30 days of conducting the preconstruction survey(s), the District should submit results to DFG. If no burrowing owls exist at the project site, no additional mitigation measures would be required.

If survey results reveal the presence of owls, monitoring by a qualified wildlife biologist would be required during construction activities and the District would provide a letter report of monitoring activities to DFG.

If surveys determine that burrowing owls are present, the District should implement one of the following mitigation measures, depending on when construction is scheduled to occur.

- If construction occurs during the nonbreeding season (September-January), the District would avoid construction within 160 feet of the active burrow to avoid disturbing or killing the burrowing owls. This schedule would comply with laws under the California Fish and Game Code, the federal Migratory Bird Treaty Act, and DFG's borrowing owl guidelines. Monitoring potential wintering burrows would be necessary to ensure that no owls were killed during grading. A qualified wildlife biologist would survey the affected area within 2-4 weeks (which can be conducted during the annual surveys) before construction activity begins to determine if active burrows are present. After determining that active burrows are unoccupied, the burrows should be destroyed to prevent reoccupancy during construction. The exclusion methods (passive relocation) are described in DFG's burrowing owl mitigation guidelines.
- If construction occurs during the breeding season (February-August), the District would exclude the owls from the project area before the breeding season began and prevent the owls from returning by the following actions. The exclusion methods (passive relocation) are described in DFG's burrowing owl mitigation guidelines:
  - — Examining all potential burrows in Reach 12 and Reach A during the nonbreeding season (~~September~~December-January) to determine the presence or absence of owls,
  - — Placing one-way exit doors on all potential burrows for 48 hours, then ~~D~~destroying or collapsing unoccupied burrows to prevent their use during the nonbreeding and breeding seasons, ~~and~~
  - — Providing a buffer area of 250 feet surrounding active nest sites that are near the construction site, but not directly affected by the project, and

  - Monitoring the project site and continuing to destroy burrows until grading begins to ensure that new burrows constructed by ground squirrels are not occupied by owls and used as dens.

- ~~If no other options are available, relocate burrowing owls. The District would prepare a relocation and habitat protection plan in coordination with DFG and USFWS and obtain permits from both DFG and USFWS.~~

Within 60 days of completion of construction activities in Reach 12 and Reach A, the District would submit a letter report to DFG that includes results of the preconstruction survey, monitoring and preventive actions taken during construction, and postconstruction conditions.

If occupied habitat cannot be avoided, the District will contact DFG to determine the appropriate habitat mitigation. Final mitigation requirements will depend upon the number of pairs of owls or individual owls impacted by the project and the amount of occupied land impacted. A burrowing owl mitigation plan would be developed in cooperation with DFG. If the affected area is not occupied by burrowing owls for 3 years, the District should confer with DFG to determine if habitat mitigation is needed, since the area could be considered unoccupied.

Successful implementation of this mitigation measure would reduce this impact to a less-than-significant level.

Response to Comment 5-11

The comment recommends that the U.S. Fish and Wildlife Service (USFWS) be consulted regarding appropriate survey protocol and mitigation for the federally listed California red-legged frog.

The project proponent consulted with USFWS and qualified biologists conducted surveys for this species. The following changes are made to the Draft EIR/EIS:

Page 4.13-16. A new section is inserted between the Yellow Warbler and San Francisco Forktail Damselfly:

> **California Red-legged Frog.** Adult red-legged frogs require a dense, shrubby riparian vegetation or emergent vegetation closely associated with deep, still, or slow-moving water. Red-legged frogs are currently associated with deep-water pools with dense stands of overhanging willows or dense emergent vegetation. Well-vegetated terrestrial areas with the riparian corridor may provide sheltering habitat during the winter. California red-legged frogs estivate in small mammal burrows and moist leaf litter up to 85 feet from its aquatic habitat. Egg masses are typically attached to emergent vegetation. Breeding takes place from March through July. Tadpoles require about 11-20 weeks to reach metamorphosis.
>
> There are several Natural Diversity Data Base (NDDB) records for red-legged frogs within Santa Clara County. The NDDB observation closest to the Upper Guadalupe

River Flood Control Project area occurred in 1989 in Los Gatos Creek, approximately 1.5 miles upstream of Lexington Reservoir (NDDB 1996). This observation is approximately 10 miles upstream of the confluence of Los Gatos Creek and Guadalupe River.

From 1904 to 1983, red-legged frogs were observed several times within the Guadalupe River watershed. These observations were recorded in museum collection and university records (1904 though 1983) and in unpublished California Department of Fish and Game records (no specific dates; just observations before 1980). Three observations of the red-legged frogs were immediately downstream of Reach 6 (1904, 1922, and before 1980) and several were in upper Guadalupe Creek (1973, 1977, and before 1980). Red-legged frogs were also observed in 1983 in a pond immediately below Calero Reservoir that flows into Arroyo Calero (H.T. Harvey and Associates 1997).

USFWS biologists observed one probable and two possible red-legged frogs on September 30, 1997, in the pond below Calero Reservoir (Padley pers. comm.). This occurrence is approximately 7 miles upstream of Lake Almaden. The second most recent red-legged frog observation occurred in 1996 in Alamitos Creek, approximately 0.75 mile downstream of Almaden Reservoir (H.T. Harvey and Associates 1997). This occurrence was approximately 8.5 miles upstream of Lake Almaden and the upper reaches of the Upper Guadalupe River Flood Control Project.

The USFWS (Meri Moore, Endangered Species) and Jones & Stokes Associates in August 1997 discussed the approach to red-legged frog surveys for the project area and for upstream creeks, including Arroyo Calero, Alamitos Creek, and Guadalupe Creek. Ms. Moore recommended that biologists conduct surveys in portions of the project area in the Guadalupe River below Almaden Lake (Reaches 6-11 and Ross Creek) even though she had previously concurred that this area was not likely to provide suitable habitat for the recovery of the red-legged frog because of the presence of red-legged frog predators (e.g., bullfrogs, largemouth bass, and green sunfish), water pollution, and urban development (Jones & Stokes Associates 1997).

The USFWS also recommended that surveys be conducted to determine baseline conditions in creeks upstream of the project area, including Arroyo Calero, Alamitos Creek, and Guadalupe Creek. USFWS agreed that no surveys would be required in Reach A because of its proximity to San Francisco Bay and its location so far downstream of previously surveyed and unoccupied habitat. USFWS also concurred that it would not be necessary to resurvey areas in the Guadalupe River previously surveyed either by Jones & Stokes Associates (Reaches 10B and 12) or the District (Reach 12 above Blossom Hill Road, Canoas Creek, and on Guadalupe Creek upstream from Mason Dam approximately 500 yards). No frogs were observed in these areas during April 1997 surveys. The USFWS recommended that in areas where private property eliminated creek access (e.g., Arroyo Calero and Alamitos Creek), biologists visually assess habitat suitability from roads crossing the creeks. USFWS recommended that habitat suitability be assessed in accessible ponds in the Guadalupe River watershed.

District biologists conducted daytime and nighttime spotlighting surveys for red-legged frogs in several locations in 1997, including the Almaden-Calero canal and Canoas Creek. Jones & Stokes Associates biologists followed the survey methods described in USFWS's red-legged frog survey protocol (dated February 18, 1997). The protocol consists of four surveys to be conducted on two days and two nights between May 1 and November 1. Biologists waited at least 24 hours between surveys at any given location.

The District did not observe red-legged frogs during their 1997 surveys in either Canoas Creek or the Arroyo-Calero canal. There were numerous juvenile bullfrogs in the canal and adult bullfrogs in Canoas Creek (Padley pers. comm.). Jones & Stokes Associates biologists conducted surveys from September 8-20, 1997. Surveys were conducted at the following locations:

- 4.8 miles in Reaches 6-11 (excluding Reach 10B),
- 0.9 miles in Ross Creek,
- 3.6 miles in Alamitos Creek and three creek crossings,
- 1.4 miles in Arroyo Calero and two creek crossings,
- 3.4 miles in Guadalupe Creek,
- 0.7 mile in the Almaden-Calero canal,
- 3 ponds on the southeast side of Calero Reservoir (2 of which were in Calero County Park),
- 1 pond at the base of Calero Reservoir,
- 1 pond just north of the Almaden-Calero canal, and
- 2 ponds below Almaden Reservoir.

Night surveys were conducted only in Ross, Arroyo Calero, Alamitos, and Guadalupe Creeks.

No red-legged frogs were observed during the surveys. Bullfrog adults were observed in all survey areas, including the canal and 7 ponds. Juvenile bullfrogs were seen in Guadalupe Creek and at the pond at the base of Calero Reservoir. Larval bullfrogs were observed in large numbers at the base of the spillway at Guadalupe Reservoir, and several larval bullfrogs were observed in Alamitos Creek.

Western toads and Pacific treefrogs were observed in the upper portion of Guadalupe Creek and Alamitos Creek. A California newt larvae was observed in the upper half of Guadalupe Creek. One western pond turtle was resting on floating vegetation in the middle of the pond at the base of the dam at Calero Reservoir, and three western pond turtles were observed in Alamitos Creek just upstream from Mazzone Drive. Crayfish, green sunfish, carp, largemouth bass, catfish, hitch, mosquito fish, rainbow trout, Sacramento sucker, and sculpin were also observed during the surveys. One pond in Calero County Park also had largemouth bass and bluegill.

One striped skunk, raccoon, wild pig, black-tailed deer, and several coyotes were observed during night surveys along Guadalupe Creek and Arroyo Calero. Several house cats, domestic dogs, and other livestock were seen along all creeks and rivers that were surveyed.

Except for Ross Creek, which is a channelized creek with no deep pool areas and no emergent vegetation, all of the survey areas provide suitable red-legged frog habitat, including perennial water through the breeding season (mid-September), submergent and emergent vegetation, riparian habitat, and undercut banks. The Guadalupe River provides the deepest water habitat; however, this habitat also concentrates the largest numbers of fish that can prey on red-legged frogs. The three creeks upstream of Almaden Lake, including Arroyo Calero, Alamitos Creek, and Guadalupe Creek, support a combination of pool, riffle, and run habitat with substantial cover provided by submergent and emergent vegetation, riparian habitat, undercut banks, and deep pools.

The Almaden-Calero canal is concrete-lined and was for the most part dry; however, there was pooled water in some areas and bullfrogs were present. All of the seven ponds provided suitable red-legged frog habitat, including water and emergent and submergent vegetation.

A number of non-native species including bullfrog, green sunfish, carp, catfish, rainbow trout, largemouth bass, mosquitofish, and 2 species of crayfish were observed in the river, creeks, canal, and ponds. These non-native species may compete with or prey upon red-legged frogs. However, the presence of these non-native species, specifically bullfrogs, mosquitofish, and green sunfish, does not preclude the presence of red-legged frogs. There are several locations throughout the red-legged frog's range where these species have been known to occur together (Jones & Stokes Associates file information). However, the presence of bullfrogs, perennial water, and non-native fish species in an area may increase the level of predation on all life-stages of red-legged frogs, including eggs, larvae, juveniles and adults. The presence of other predators (e.g., raccoons) and competitors for food resources further reduces the suitability of existing habitat for red-legged frogs.

As stated in the USFWS February 18, 1997 Guidance on Site Assessment and Field Surveys for California Red-legged Frog, if no red-legged frogs are identified during the surveys, USFWS will consider red-legged frogs not to be present on the project site and will not recommend any further take avoidance or mitigation measures.

The USFWS, in a letter dated July 14, 1998 (see Appendix Y), concluded that the Corps' Upper Guadalupe River Flood Control Project is not likely to adversely affect the red-legged frog and that no further action pursuant to the Endangered Species Act is necessary. The Corps' project area is similar to the District's Upper Guadalupe project area.

In conclusion:

- No red-legged frogs were observed during Jones & Stokes Associates September 1997 surveys;
- There is no evidence of other recent observations of red-legged frogs in the project area; and
- The two recent red-legged frog observations in the project vicinity (below Calero and Almaden Reservoirs) were at a distance of approximately 7 to 8.5 miles respectively from the project area boundaries, beyond the 5 miles specified in the USFWS's guidance.
- The USFWS concluded that the Corps' Upper Guadalupe Project is not likely to adversely affect the red-legged frog.

Page 4.13-20. The following addition is made below the fourth paragraph and above the "Construction Impacts" header.

> **Potential Disturbance of California Red-Legged Frogs.** Implementing the project is not likely to disturb California red-legged frogs because they are not expected to occur in the affected area; therefore, this potential impact is considered less than significant. No mitigation is required.

Response to Comment 5-12

The comment states that Mitigation Measure Cf-1 (correcting fish passage problems on Alamitos Creek) cannot be claimed for both the Downtown project and the Upper Guadalupe River FCP.

See Master Response F.

Response to Comment 5-13

The comment recommends minimizing the use of hardscaping in the proposed maintenance program.

The proposed maintenance program outlines a variety of measures in a progressive approach where hardscaping methods are only proposed where softer methods are not applicable or would not be durable as determined through a systematic site evaluation.

It is the opinion of the EIR/EIS authors that the velocity and slope limitations placed on the various erosion repair methods are based on sound engineering judgment and extensive history of application. Should the commenter provide specific information and performance and other authoritative research for any particular method, the EIR/EIS author would reevaluate the limitations of alternative methods as shown or include new measures in the Engineer's Report.

Response to Comment 5-14

The comment states that the protection and enhancement measures described in the Draft EIR/EIS should be incorporated into the "Maintenance Standards for Sediment and Vegetation Removal" (Appendix C).

As stated in the Draft EIR/EIS, the proposed project has incorporated the riparian vegetation protection measures wherever possible. For example, the proposed project maintenance program was designed such that the native vegetation on the east and west banks would no longer be cleared unless absolutely necessary due to emergency and/or flood hazard. The impact is considered less than significant because the project would reduce the removal of native vegetation over pre-project practices. The descriptions in Table 3.21 of Appendix C of the Draft EIR/EIS have been revised to be consistent with the text of the EIR/EIS. Refer to Master Response C.

Response to Comment 5-15

The comment expresses concern that use of herbicides within the stream channel invert may affect wildlife and aquatic, SRA, and riparian habitats, and requests description of management practices to avoid those impacts.

Maintenance is a necessary component of the project. Refer to Master Response C for a list of herbicides and for discussion of herbicide practices and safety measures. All materials are used under California Department of Pesticide Regulation label restrictions as they apply to use in riparian, aquatic and upland areas. Herbicide use also complies with requirements of the California and U.S. Environmental Protection Agency and with the Memorandum of Understanding between the District and the Department of Fish and Game.

Response to Comment 5-16

The comment indicates that there are contradictory statements in the Draft EIR/EIS regarding whether there will be more or less extensive sediment removal required with the project.

The channel maintenance program for the proposed project will include *less* extensive sediment removal than existing conditions because of the design of the channel will allow for sediment transport and because the project will reduce erosion in the project area. See also Master Response E.

The following change is made to the Draft EIR/EIS:

Page 4.12-21. The second paragraph is corrected to read:

- Differences between existing and proposed channel maintenance procedures are minor. The most notable changes under the proposed project include ~~more~~ less extensive sediment removal~~(in Reaches 9 and 11 and in bypasses in Reaches 6-8)~~; less use of sacked concrete for erosion control; newly constructed roads and ramps that would be treated with preemergent and postemergent herbicides in accordance with applicable regulations; maintenance for new irrigation systems and mitigation plantings; and less mechanical and chemical vegetation control (native vegetation would remain except in a 25-foot-wide strip centered on the existing low-flow channel in Reaches 6-12 and a 50-foot-wide strip in Reach A).

Response to Comment 5-17

The comment states that project construction and maintenance activities have the potential to cause water quality impacts through resuspension of sediments, release of contaminants, turbidity and reduced dissolved oxygen.

The effect of construction on water quality, including sedimentation and resultant effects on turbidity, is addressed in the Water Quality Section on pages 4.3-5 through 4.3-7 of the Draft EIR/EIS. Mitigation Measure WQ-1 requires preparation and implementation of a Storm Water Pollution Prevention Plan to prevent these impacts. Preliminary sampling of sediments has indicated that the sediments are generally not contaminated. Further sampling will also be conducted and remediation implemented as needed. Refer to Response to Comment 5-18 for a discussion of mercury.

Response to Comment 5-18

The comment expresses concern that the project disturbance and excavation sites would become sources for mercury release into the aquatic environment. The comment requests that a streambed sediment sampling program be conducted.

Currently, there are no federal or state standards for assessing river sediment quality in California. The Puget Sound Authority (PSA) protocols and State Department of Health Services (DOHS) criteria for the classification of hazardous wastes that are referred to by the commentor can only be considered relative benchmarks for assessing sediment quality as those standards were developed for different purposes. The San Francisco Regional Water Quality Control Board has established specific standards for assessing dredged material for other uses. The PSA protocols were developed specifically for the Puget Sound region while the DOHS standards are for contaminants in terrestrial soils are primarily for hazardous waste determinations.

Mercury contamination of river sediments is a well-documented and common problem in most major western Sierra creeks and rivers resulting from the gold mining during the 1800s. It is a watershed problem that will require a watershed specific solution (perhaps through the regional board's watershed management initiative program). CDFG and the State Water Resources Control Board (SWRCB) compiled over 10 years of data on heavy metals contamination of major rivers and creeks in the Toxic Substances Monitoring Program (State Water Resources Control Board 1990). This program monitored pollutant levels in fish and aquatic organism tissues rather than collecting water samples. The Guadalupe River has been sampled as part of that program. There is also an ongoing sample study in progress by the U.S. Fish and Wildlife Service to determine ambient levels of mercury in sediment and the food chain.

The proposed project has included numerous measures to minimize the resuspension of sediments and mercury into downstream areas. Removal of river sediments would reduce the total mercury load in the Guadalupe River and could be considered beneficial in the long-term. Any soils found not to be acceptable for disposal or reuse will be taken to a Class III landfill in accordance with the District's Sediment Characterization Plan for the 1998 Sediment Removal Project. The RWQCB will be required to certify that the project does not impair the beneficial uses of the river during the Clean Water Act Section 401 process and will condition the project further, if needed, to protect water quality.

To clarify the issue of mercury contamination in the watershed, the following text has been added to the Draft EIR/EIS:

Page 4.4-10. The following text is added after the first full paragraph:

> The Guadalupe Watershed is subject to mercury contamination, which has resulted from previous mining activities such as the Almaden Quicksilver Mine. Santa Clara County, as owner and responsible party, has completed their remediation of the mine under direction of the Department of Toxic Substances Control, which is the State agency responsible for oversight of the cleanup. The U.S. Fish and Wildlife Services is conducting ongoing sampling in the watershed.

Page 4.4-14. The following text is added after the first paragraph:

> Removal of river sediments would reduce the total mercury load in the Guadalupe River and could be considered beneficial in the long term.

Page 4.4-16. The following mitigation measure is added after Mitigation Measure HM-1:

> **Mitigation Measure HM-1A: Plant vegetation to prevent erosion and spread of existing contaminants.**
>
> In addition, plantings will be done to prevent erosion and spread of any existing contaminants. The bench will be planted with appropriate overstory and understory vegetation. Once the roots of these plants have become established, they will serve to hold the soil in place, thereby preventing soil erosion and possible introduction of contamination into the stream. The bench is located at an elevation above bank full to keep the more frequent storm events in the channel away from the vegetation. In the interim before the roots of the mitigation planting have become established, a cover crop will be used to hold the soil in place. Once the roots of the mitigation vegetation have had time to develop, the cover crop will not be necessary.

Response to Comment 5-19

The comment recommends against certification of the Draft EIR/EIS until comments and concerns expressed in Letter 5 are addressed.

The Responses to Comments and modifications to the Final EIR/EIS have been completed to address all of the concerns expressed in Letter 5 and in other Comment Letters received by the District and U.S. Army Corps of Engineers. The EIR/EIS authors feel that all concerns have been fully addressed in this Final EIR/EIS.

COMMENT LETTER 6 - STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, HARRY Y. YAHATA (APRIL 4, 1997)

Response to Comment 6-1

The comment asks if the proposed project will impact the I-280/Highway 85 interchange or Highway 85.

The proposed project will not impact any highway interchange.

Response to Comment 6-2

The comment states that any work performed within the State right-of-way will require an encroachment permit from Caltrans.

The EIR/EIS authors concur.

COMMENT LETTER 7 - COUNTY OF SANTA CLARA, ROADS AND AIRPORTS DEPARTMENT, LAND DEVELOPMENT AND PERMITS, AHOK VYAS (APRIL 16, 1997)

Response to Comment 7-1

The comment requests that a justification of using open trench construction method for the culverts at Canoas and Ross Creeks be provided.

As stated in the Engineer's Report, the decision to use open trench or bore and jack has not been made. The decision will occur during the design and construction phase of the project. At that time, the District will be coordinating with the County to address the construction method issues.

Response to Comment 7-2

The comment requests that the EIR/EIS address traffic issues at the Capitol Expressway intersection.

The proposed project will not impact the Capitol Expressway bridge or intersection. Therefore, the EIR/EIS does not address the traffic issues at the intersection and no mitigation measures are required.

Response to Comment 7-3

The comment requests that the construction of the culverts at Ross Creek provide for future HOV lanes.

The proposed project does include provisions for the future HOV lanes.

Response to Comment 7-4

The comment request review and approval of the improvement plans of the project relative to Almaden Expressway.

The EIR/EIS authors concur.

Response to Comment 7-5

The comment requires an encroachment permit be obtained from the County prior to beginning any work within the County's Almaden Expressway right-of-way.

The EIR/EIS authors concur.

COMMENT LETTER 8 - COUNTY OF SANTA CLARA, ENVIRONMENTAL RESOURCES AGENCY, PARKS AND RECREATION DEPARTMENT, RUTH M. SHRIBER (APRIL 17, 1997)

Response to Comment 8-1

The comment emphasizes the importance of the Guadalupe River Trail identified in the Santa Clara Countywide Trails Master Plan.

The EIR/EIS authors concur.

Response to Comment 8-2

The comment suggests that the proposed project takes the trail guidelines into consideration.

The proposed project has been coordinated and designed with staff from the City's Parks and Recreation Department such that future implementation of the park and trail master plan connecting the 6 miles from Alamitos Creek to Downtown San Jose would be feasible.

COMMENT LETTER 9 - CITY OF SAN JOSE, DEPARTMENT OF PLANNING, BUILDING AND CODE ENFORCEMENT, JANIS MOORE (APRIL 18, 1997)

Response to Comment 9-1

The comment requests that if the MVI alternative is preferred in Reaches 9 and 10A, trail development should be provided within the river corridor.

The EIR/EIS authors concur.

Response to Comment 9-2

The comment requests that if the MVI alternative is preferred in Reaches 10C and 11, trail development should be provided along the top of bank of the channel.

The EIR/EIS authors concur.

Response to Comment 9-3

The comment requests potential trail locations be shown on the flood control plans and cross sections.

The EIR/EIS authors have evaluated the feasibility of the request and found that it is only feasible to show the potential trail locations on the cross sections due to limited space on the plans.

Response to Comment 9-4

The comment points out a misprint in the Reach Map in Figure 1.1.

The EIR/EIS authors agree. The misprint has been corrected.

Response to Comment 9-5

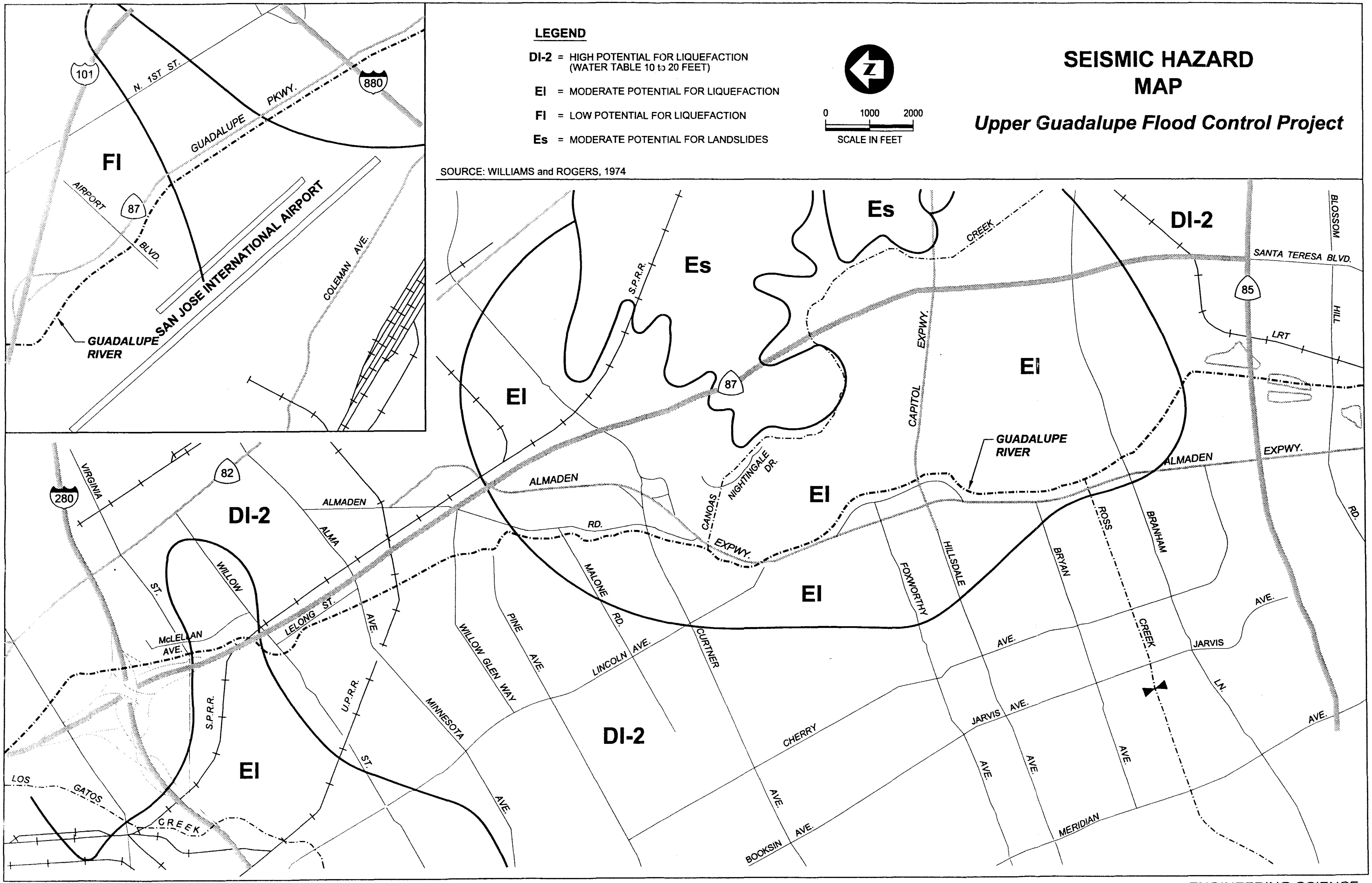
The comment states that Figure 4.1-4, the seismic hazard map, is missing the hazard designation for part of the San Jose International Airport.

The appropriate designations of seismic hazard have been assigned to the area of the San Jose Airport and the boundaries of the hazard designations have been slightly modified to more accurately reflect those contained in Williams and Rodgers 1974. The revised figure is presented here.

Response to Comment 9-6

The comment requests greater discussions on the impacts of the proposed project on the local drainage system.

Water surface elevations during major storms including ordinary high water, 10-year and 100-year flow, would be lower with the proposed project. The decrease in water levels in the



SEISMIC HAZARD MAP

Upper Guadalupe Flood Control Project

LEGEND

DI-2 = HIGH POTENTIAL FOR LIQUEFACTION (WATER TABLE 10 to 20 FEET)

EI = MODERATE POTENTIAL FOR LIQUEFACTION

FI = LOW POTENTIAL FOR LIQUEFACTION

Es = MODERATE POTENTIAL FOR LANDSLIDES

SOURCE: WILLIAMS and ROGERS, 1974

river would decrease the duration and frequency of flooding in the streets. The proposed project will remove overbank flows up to 100-year flood flows. At Canoas Creek, since there are existing levees on both the north and south banks, the construction of floodwalls would not result in additional impacts to the local drainage.

Response to Comment 9-7

The comment questions the validity of the flood frequencies listed in the Draft EIR/EIS.

The EIR/EIS authors concur, and therefore the flood frequencies have been deleted from the table.

Response to Comment 9-8

The comment asks for evaluation of safety impacts of the floodwall near the Elks Lodge in relation to the City's proposed trail.

The potential trail is not part of the flood control project and so has not been evaluated in this EIR/EIS. The floodwall is not located adjacent to the trail, but rather is over 60 feet away. The wall is on the east side of the bypass channel, while the potential trail location is in the central area between the river and the channel. The trail would be visible from the west side of the river and from upstream at Alma Avenue.

Response to Comment 9-9

The comment requests that the Draft EIR/EIS state that the development of the Guadalupe River trail will be addressed in the Army Corps of Engineer EIR/EIS.

The commenter is referred to the Corps of Engineers EIS for the Upper Guadalupe River. The City's park plan is discussed as a cumulative project on page 5-3 of the EIR/EIS.

Response to Comment 9-10

The comment requests consideration of earthen bypass channels where possible.

An earthen bypass channel was considered in the alternative analysis and was not preferred because of high cost of acquiring right-of-way and greater socio-economic impacts.

Response to Comment 9-11

The comment requests more discussion of the effect of the proposed project on flood insurance.

The effect of the proposed project on flood insurance is discussed in Chapter 3 of the Engineer's Report under "Alternatives Feasibility and Their Significant Impacts," and in Table 3.5 of the Engineer's Report.

Response to Comment 9-12

The comment states that the proposed easements in Reach A may not be available.

In order to maintain the channel in Reach A, the District requires a continuous access to the channel. The proposed easement will be added to the description of the proposed project.

Response to Comment 9-13

The comment requests an explanation of why the levees proposed to be constructed in Reach A are considered interim until Highway 87 is constructed.

The Draft EIR/EIS was revised to provide additional explanation of the interim levees. The EIR/EIS was referring to the levee on east bank as interim because when completed, the embankment of Highway 87 will be treated as a levee to the river on the east bank. Therefore, unless Highway 87 is constructed, a temporary levee on the east bank would need to be constructed.

The following change is made to the Draft EIR/EIS:

Page 3-12. The second full paragraph is modified as follows:

> **Reach A: SR 101 to I-880 - Levee Raising and Channel Widening**
>
> Reach A is located 2.25 miles north of I-280 and is not contiguous with Reach 6. The channel in this reach is nearly adequate and needs only minor modifications to convey the one percent flow with adequate freeboard. Proposed flood control modifications and responsible parties in Reach A are summarized in Table 3.3. From Airport ~~Boulevard~~ Parkway to I-880 the channel would be widened to the east by Caltrans, creating a bench up to 100 feet wide about 10 feet above the channel bottom. A portion of the bench would be used as a maintenance road and the remainder would be revegetated. The District would construct a floodwall up to 2 feet on the west bank and a levee on the east bank from Highway 101 to Airport Island Bridge. ~~In the interim, before Highway 87 is constructed, l~~Levees up to 2 feet high would be constructed on both the east bank and on the west bank from Airport Island Bridge to Airport Parkway Bridge. The levee on the east bank will be a temporary levee until Highway 87 is constructed. The embankment of Highway 87 when completed will be treated as a levee to the river on the east bank. The 15-foot wide maintenance road on the west top of the bank would include underpasses for Highway 101, Airport Island Bridge, Airport Parkway Bridge, and Future Skyport Drive Bridge (proposed by the City) on access ramps. The undercrossing at I-880 connects the proposed river walk south. Soil investigations would be performed on existing levees. If the levee is determined to be unstable, it would be reinforced. Levee reinforcement would be performed so as to avoid impacts to riparian vegetation.

Response to Comment 9-14

The comment requests that the project description include the replacement of the existing swale at the Airport Island parcel with a 12 inch outfall with flapgate.

The EIR/EIS authors concur.

Response to Comment 9-15

The comment asks how the flows at Highway 101 and adjacent properties will be affected by the Highway 101 bridge as its soffit is lower than the channel banks.

During a 100-year flood flow, the bridge under Highway 101 will be under pressure flow. Storm drain outfalls in the vicinity will not be able to discharge into the river until the high flows recede.

Response to Comment 9-16

The comment requests acknowledgment of a future second bridge to the Airport Island parcel.

The EIR/EIS authors concur.

Response to Comment 9-17

The comment requests discussion with City's staff regarding the proposed staging areas for the project.

The EIR/EIS authors concur.

COMMENT LETTER 10 - GUADALUPE - COYOTE RESOURCE CONSERVATION DISTRICT, NANCY BERNARDI (APRIL 16, 1997)

Response to Comment 10-1

The comment states that the Stream Restoration Alternative has not received adequate analysis and points out that even if the Stream Restoration Alternative construction impacts are greater than the Preferred Project, the long-term impacts to habitat values in the entire watershed would be greatly minimized with this alternative.

See Master Response A.

Response to Comment 10-2

The comment states that analysis of the Stream Restoration Alternative needs to include the affects on sediment transport, flow regime, finance and maintenance costs.

See Master Response A.

Response to Comment 10-3

The comment states that the Stream Restoration Alternative would reduce sediment transport and riparian vegetation would help filter out pollutants.

See Master Response A.

Response to Comment 10-4

The comment requests further discussion of the Stream Restoration Alternative and the sediment transport impacts of Canoas and Ross Creeks on Guadalupe River.

Refer to Master Response A for discussion of the Stream Restoration Alternative. Regarding sediment transport problems, refer to Master Response E.

Response to Comment 10-5

The comment requests further discussion of maintenance cost savings on Stream Restoration Alternative.

Refer to Master Response A for discussion of the Stream Restoration Alternative.

Response to Comment 10-6

The comment expresses concern that the proposed maintenance program will convert natural banks into hard surface.

The Engineer's Report estimates that up to 80 linear feet of stream bank per year could be converted to hard surface. This is a conservative estimate developed to allow the EIR/EIS authors to calculate acreages for mitigation banking. All hardscapes will be mitigated.

Actual protection measures will be selected at each site in a progressive process beginning with preventive measures and non-structural methods when appropriate.

Response to Comment 10-7

The comment states that it is unclear whether the SRA mitigation bank will be in-kind and immediately adjacent to erosion repair sites. It also requests clarification of what mitigation will be implemented if spawning habitat is affected during repair of erosion sites and the SRA mitigation bank is ineffective for salmon and steelhead spawning/rearing use.

The first priority for mitigation of impacts caused by repair of erosion sites will be to implement in-kind mitigation on-site. If that is not possible, the SRA mitigation bank would be used as mitigation with the concurrence of USFWS and DFG. The mitigation bank includes riparian mitigation plantings in Reaches 7, 10C and 11A and SRA mitigation plantings in Reaches 7, 10A, 10C, and 11 (Table 3.6 of EIR/EIS). Proposed mitigation plantings and mitigation bank sites are identified in Plates V-41 through V-54, revised Plates in Volume V, and Exhibit A of the mitigation and monitoring plan. A Mitigation Bank Agreement that stipulates the operation and maintenance of the mitigation bank will be developed in consultation with and with the approval of the appropriate regulatory agencies, including USFWS and DFG. For text changes to the Draft EIR/EIS, refer to Response to Comment 2-3.

Response to Comment 10-8 to 10-11

The comment states that the cost to maintain the Preferred Project will be too high. The comment asks for the cost and scope of maintenance including sediment removal and herbicide application.

Refer to Master Response A regarding the Stream Restoration Alternative, and to Master Response C regarding maintenance procedures, including herbicide use. Also refer to Response to Comment 10-4. The Preferred Project as designed is expected to require less maintenance. The detailed cost estimates of each of the anticipated maintenance activities are included in Chapter 3 of the Engineer's Report.

Response to Comment 10-12 to 10-15

The comment asks if the District has budgeted for the maintenance cost for the project.

The estimated maintenance costs has been included as part of the total proposed project costs.

Response to Comment 10-16 to 10-17

The comment asks for the locations where herbicides will be applied and asks whether the herbicides used have carcinogenic or mutagenic effects.

Refer to Master Response C for information about herbicide application. None of the herbicides have been determined to be carcinogenic or mutagenic. Refer to Responses to Comments 14-30 and 14-31.

Response to Comments 10-18, 10-19, and 10-20

The comments request an explanation of the necessity of constructing all of the ramps and maintenance roads identified as part of the proposed project and whether there is a fixed limit to the number of ramps.

The proposed maintenance roads and ramps are designed to provide continuous access for maintenance of the channel. They are designed to avoid and minimize impacts to riparian habitat wherever possible, especially through placement of maintenance roads in proposed floodways. There are no concrete ramps proposed in the project; they will be surfaced with crushed rock. All the proposed maintenance roads are 18 feet wide because they will provide access for the District's heavy equipment for maintenance. The District has carefully studied the placement of each of the ramps, shown in the Plate Volume (Volume II), and has determined that the eastside ramps upstream of Alma Avenue (Reach 7B) and upstream of Capitol Expressway (Reach 11A) can be eliminated from the plan. The proposed maintenance roads and ramps are an essential element to make the project function properly.

Response to Comment 10-21

The comment asks for the acreage of the proposed roads and ramps.

The physical and biological impacts of the proposed roads and ramps are addressed in the Draft EIR/EIS and would be mitigated, where necessary. The specific acreage of the roads and ramps has not been isolated in this impact analysis.

Response to Comment 10-22

The comment asks what are the cumulative impacts of the loss of riparian and loss of spawning and rearing habitat on mean river temperatures and cover from construction of maintenance roads and access ramps.

SRA cover losses from construction of proposed maintenance roads and access ramps are included in the impact assessment for SRA cover, and therefore will be mitigated. Please see Master Response H for the discussion of thermal effects associated with shade loss from vegetation removal.

Response to Comment 10-23

The comment asks about the cumulative impacts of roads and ramps on ordinance trees.

The losses of ordinance trees from construction of proposed maintenance roads and ramps are included in the impact assessment for ordinance trees in Chapter 4.12, "Vegetation." Note that most of the maintenance roads are placed in proposed floodways that must be kept clear and do not cause additional impacts in and of themselves. This placement of the maintenance roads specifically avoids impacts.

Response to Comment 10-24

The comment asks what measures are proposed to lessen runoff and erosion from the maintenance roads and ramps into the stream.

All the maintenance roads and ramps will be surfaced with a minimum 6-inch crushed rock and will be constructed above the channel invert, above bankfull flow elevation. In many places the maintenance road may also be the foundation for a recreational trail constructed by others and might be paved with asphalt.

Response to Comment 10-25

The comment requests clarification on how river flooding causes sediment deposition and bank erosion, and inquires whether the stream restoration alternative alleviate both of the problems.

Bank erosion is usually attributed to high velocities during flooding or high flows, which cause scouring at the toe of the creek banks and thereby create unstable banks. The soil and sediment generated from these active erosion sites tends to be deposited in areas where the channel is wide and has mild slope.

The EIR/EIS authors agree that the Stream Restoration Alternative would minimize both the erosion and sedimentation problems, but the proposed project would also minimize the problems.

Response to Comment 10-26

The comment asks if any of the floods since 1779 have been a one percent flood.

There are accounts of large damaging floods but the hydrology data available to the District does not go back to the 1700's . The data available show that flooding since the 1940's has not exceeded the one percent flood flow.

Response to Comment 10-27

The comment asks for the backup flow calculated in the one percent flood flow.

For a typical urban tributary such as Ross Creek and Canoas Creek, the difference in one percent flood flow upstream and downstream of Ross Creek is about 1,000 cfs and for Canoas Creek is about 2,200 cfs. This would approximately the amount of flow being delivered to the creek through the local drainage systems.

Response to Comment 10-28

The comment states that Section 9 and 10 of the Rivers and Harbors Act should be included in Table 2.1.

The following change is made to the Draft EIR/EIS:

Page 2.6. Table 2.1 is modified by inserting the following text:

Agency	Act or Regulation	Requirement	Compliance Procedure
U.S. Army Corps of Engineers	Clean Water Act as Amended (33 USC Section 1251 et seq.)	Dredge and fill permits.	Submit applications to permitting agency; Prepare NEPA/CEQA documentation.
	Sections 9 and 10 of the Rivers and Harbors Act	Permit for construction in the main river channel	Submit application to permitting agency
	National Historic Preservation Act of 1966 (16 USC Section 470 et seq.)	Compliance with provisions of the Act including identification of cultural and historical resources that may be affected by the project and consultation with State Historic Preservation officer.	State Historic Preservation office reviews EIR/EIS through State clearinghouse procedure.

Response to Comment 10-29

The comment states that the State Lands Commission should be listed in Table 2.1.

The following change is made to the Draft EIR/EIS:

Page 2.6. Table 2.1 is modified by inserting the following text:

Agency	Act or Regulation	Requirement	Compliance Procedure
California State Lands Commission	Public Trust Doctrine	Review of projects affecting navigable waterways	Review the project presented in the EIR/EIS for consistency with the public trust doctrine

Response to Comment 10-30

The comment states that the Stream Restoration Alternative is the environmentally superior alternative, not the MVI Alternative.

See Master Response A.

Response to Comment 10-31

The comment states that the information in the Draft EIR/EIS is weighted toward the Preferred Project and the MVI Alternative, with less information provided for the Stream Restoration Alternative.

See Master Response A.

Response to Comment 10-32

The comment states the belief that the District is under legal obligation, pursuant to Section 5901 of the Fish and Game Code, to remove all barriers to fish passage on streams for which the District is licensed to appropriate water and that these actions cannot be considered mitigation measures.

The District's opinion is that there is no obligation for the District to remove barriers on private property which were constructed by others, such as the low-flow crossing in Reach 11B. Removal of such barriers by the District is therefore a discretionary measure. The District has decided to provide an interim fix of the Hillsdale Avenue weir (Reach 10C) and the low-flow crossing in Reach 11B in 1998-1999. The permanent removal of the barriers would be provided under the Upper Guadalupe River Flood Control Project.

Under the proposed project, the District is proposing to improve fish passage conditions on Guadalupe Creek at Stream Gage Station No. 43 and at a channelized stream reach downstream of Reynolds Road. Both of these barriers were constructed by others. These are discretionary measures and can appropriately be considered as mitigation.

Response to Comment 10-33

The comment requests that the status of the Guadalupe River Fisheries Management Plan be described and that the District should not proceed with the flood control project until the Fisheries Management Plan is completed.

The Fisheries Management Plan has not yet been completed and may not be completed before construction starts. When the Fisheries Management Plan is completed, the District will review the proposed project for inconsistencies with the Fisheries Management Plan, and address those inconsistencies at that time. The District expects that, overall, the proposed project would have beneficial effects upon fish habitat in the Guadalupe River system. The District, therefore, does not believe that it is necessary to delay the proposed project until the Fisheries Management Plan is completed.

Response to Comment 10-34

The comment requests that the EIR/EIS stipulate that prior to initiation of construction, the Integrated Vegetation Mitigation Plan (Mitigation Measure V-1), the Vegetation Protection Plan for Riparian and Urban Forests (Mitigation Measure V-2), and the Guadalupe Fisheries Management Plan must be completed and approved by RWQCB, DFG, USFWS, and NMFS.

The mitigation and monitoring plan is included in the Final EIR/EIS for review and comment by cooperating agencies prior to initiation of construction (see Volume VIII of the Final EIR/EIS). The Vegetation Protection Plan for Riparian and Urban Forests would be prepared prior to initiation of construction in each reach and provided to cooperating agencies for review and comment. The Guadalupe Fisheries Management Plan is presently under preparation by the District; refer to Response to Comment 10-33 for further information.

Response to Comment 10-35

The comment states that the cumulative impact analysis is deficient because the mitigation measures for the Downtown Guadalupe River Flood Control Project are being reevaluated.

The most recent set of mitigation measures for the Downtown Guadalupe River Flood Control Project are incorporated into the cumulative impact analysis. Losses of riparian habitat and SRA habitat will be fully mitigated. See Master Responses A, F, and L.

The following change is made to the Draft EIR/EIS:

Page 5-2. Table 5-1 is revised as follows:

TABLE 5.1

DIRECT CUMULATIVE IMPACTS ON RIPARIAN HABITAT ON THE GUADALUPE RIVER MAINSTEM AND MITIGATION REQUIRED (ACRES)

	Impact	Mitigation
Total acreage of riparian habitat to be directly affected:		
Corps I-880 to I-280 and Guadalupe River Park (San Jose Redevelopment Agency)	15.3[1] ~~15.53~~	21.6~~22.5~~
Caltrans SR 87	4.54	7.29
District Highway 101 to I-880 and I-280 to Blossom Hill Road (Preferred Project)	9.48	18.97
Caltrans SR 85	0.1[2]	12.1
Guadalupe River Park South Corridor Master Plan (City of San Jose)	0.0~~8~~	0.0~~4.7~~
Total	29.42~~29.69~~	59.96~~60.94.9~~

[1] These impacts are based on the Triple-Bypass Alternative.

[2] The project will directly affect 0.1 acre of riparian vegetation on the Guadalupe River mainstem offstream and indirectly affect 4.5 acres on Los Gatos and Ross Creeks. Mitigation for loss of riparian habitat requires planting 12.1 acres of riparian vegetation on site and 0.2 acre off site (Monette 1992).

Response to Comment 10-36

The comment questions whether it is appropriate for the District to claim mitigation credit for fish passage improvements on Alamitos Creek because this is proposed mitigation for the Downtown project.

See Master Responses F and L.

Response to Comment 10-37

The comment provides clarification on years fin clips were collected for genetic testing.

The information presented in the Draft EIR/EIS on the genetics of Guadalupe River chinook salmon was summarized from a report by Dr. Jennifer Nielsen at the Hopkins Marine Station. By including this information in the Draft EIR/EIS, the authors intents are to provide a summary of all available information on chinook salmon related to the Guadalupe River. The cited report does not mention the collection of samples in 1993, nor does it mention any results of those collections. The EIR/EIS authors are not aware of any document reporting the results of those analyses. However, this is not to say that genetic testing did not occur in 1993 or that a report was not prepared. Refer to Response to Comment 13-47.

The Draft EIR/EIS does indicate on Page 4.14-12 that, "the current chinook salmon population may be a remnant of an undocumented population indigenous to the Guadalupe River, or they may be strays from wild or hatchery populations from the Sacramento-San Joaquin River system." Regardless of their origin and genetic background, the Draft EIR/EIS recognizes their existence and use of the Guadalupe River and evaluates potential impacts on their population. Furthermore, measures to mitigate for significant impacts on chinook salmon are incorporated into the document. For example, with regards to construction timing, measures have been incorporated to ensure minimal disruption to chinook salmon migration in the fall by requiring that in-channel construction be completed by October 15 of each year.

Response to Comment 10-38

The comment asks what is the importance of straying for a species population in minimizing the impacts of stochastic events and what is the significance of genetically unique populations to the long-term survival of the species?

The answers to these questions are beyond the scope of the Draft EIR/EIS. As stated in response to comment 10-37 and 10-40, impacts on chinook salmon were evaluated in the document and appropriate mitigation measures have been included to offset those impacts from the project that were found to be significant.

Response to Comment 10-39

The comments suggests that fishery management plans should address threatened or endangered status for steelhead and chinook salmon and that this be included in the Final EIR/EIS.

Refer to Response to Comment 2-5.

Response to Comment 10-40

The comment suggests that the data on fisheries presented in the Draft EIR/EIS is incomplete.

The EIR/EIS authors disagree. The Draft EIR/EIS summarizes existing fisheries information for the Guadalupe River from the scientific literature, resource agency reports and file information, and to a certain extent personal accounts by local citizens (e.g., Castillo 1996). While the Draft EIR/EIS may not include all of the accounts or facts related to fish (particularly obscure records or records where general statements are made), a sufficient amount of information is presented in the "Affected Environment/Setting" in the fisheries chapter to convey to the reader that chinook salmon and steelhead presently occur in the Guadalupe River system. Consequently, the impact analysis takes into account the potential for the project to adversely affect these species and proposes the necessary protective measures. As for statement related to the timing of chinook salmon entering the Guadalupe River in June, the Draft EIR/EIS provides information that is consistent with the commenter's statement that chinook salmon have been seen in the river as early as June.

Response to Comment 10-41

The comment requests that good stream habitat be maintained on tributary streams during the duration of the project if these are to be used for mitigation.

See Master Responses J, K, and L.

COMMENT LETTER 11 - SAN JOSE WATER COMPANY, ED MELLO (APRIL 18, 1997)

Response to Comment 11-1

The comment mentions that the 16-inch main in Nightingale Avenue described on page 3-216 of the Engineer's Report should be 6-inch main instead.

The EIR/EIS authors agree and text in the Engineer's Report has been revised.

The following change is made to the Engineer's Report:

Page 3-216. The first paragraph is corrected as follows:

> **Canoas Creek**
>
> Adequate space between the existing ~~1~~6-inch main under Nightingale Drive and the proposed additional 9- by 9.5-foot RCB, as well as~~,~~ between the existing 16-inch main at Almaden Expressway and the proposed additional 20- by 12-foot RCB culvert, would be provided. If these two mains are to be replaced, only one main would be out-of-service at any one time.

Response to Comment 11-2

The comment requests that the 31-inch pipeline upstream of Hillsdale Avenue Bridge remain in place until the bridge on Pearl Avenue is constructed.

The EIR/EIS authors concur.

The following change is made to the Engineer's Report:

Page 3-215. The sixth paragraph is modified as follows:

> ***Reach 10***
>
> The 16-inch main near Wren Drive would be protected during the construction of the maintenance ramp. The 31-inch pipeline upstream of Hillsdale Avenue Bridge will remain in place until the bridge on Pearl Avenue is constructed.

Response to Comment 11-3

The comment requests that Well No.4 at Bryan Avenue Station be relocated.

The EIR/EIS authors concur.

The following change has been made to the Draft EIR/EIS:

Page 3-40. The first paragraph is corrected as follows:

> The project would impact properties on the west bank between the Guadalupe River and Almaden Expressway. Two homes and one SJWCo well would be affected. The

> houses would be removed to allow for the channel widening. ~~The w~~Well No. 4 at Bryan Avenue Station and associated piping would be relocated at District expense in coordination with the SJWCo. Existing utilities would be relocated at District expense or per other agreement.

Response to Comment 11-4

The comment requests that the mains at Cherry Avenue and Jarvis Avenue in Ross Creek be relocated.

The EIR/EIS authors concur that this may be necessary.

The following change has been made to the Engineer's Report:

Page 3-216. The second paragraph is modified as follows:

> ***Ross Creek***
>
> The District would protect the existing 21-inch main that is located above the Almaden Expressway existing culvert when constructing the proposed additional 20- by 10-foot RCB culvert. A bypass main would be provided if the 21-inch main is to be taken out-of-service during culvert construction. The mains at Cherry Avenue and Jarvis Avenue will be relocated if necessary.

Response to Comment 11-5

The comment requests that Well No.3 and No.4 at Branham Lane Station be relocated if they are found to be below the 100-year flood elevation.

During the design phase of the project, relocation of these wells will be coordinated with the San Jose Water Company.

COMMENT LETTER 12 - PACIFIC GAS AND ELECTRIC COMPANY, THOMAS J. ZLATUNICH (MARCH 24, 1997)

Response to Comment 12-1

The comment requests that the District coordinate with PG&E early in the development of the project plans.

The EIR/EIS authors concur. During the design phase of the project the District will contact PG&E and coordinate any relocation as early as possible.

Response to Comment 12-2

The comment requests that the District be responsible for relocation of existing PG&E facilities.

The specifics of relocation costs and party responsibilities will be negotiated during the design phase of the project.

Response to Comment 12-3

The comment mentions that relocation of PG&E's electric transmission and substation facilities could require formal approval from the California Public Utilities Commission, which could take up to two years to complete.

The EIR/EIS authors appreciate the information. The proposed project does not require relocation of any of PG&E's electric transmission or substation facilities.

Response to Comment 12-4

The comment recommends that the EIR/EIS include evaluation of cumulative impacts to utility systems by extending utility service to the proposed project.

The proposed project will not require extension of utility service.

Response to Comment 12-5

The comment suggests that the EIR/EIS include information about the issue of electric and magnetic fields (EMF).

The EIR/EIS authors appreciate the suggestion, however, the proposed project does not include any electrical facilities that generate EMF and therefore the EIR/EIS will not be revised to include information on EMF.

Response to Comment 12-6

The comment mentions that the California Public Utilities Commission has provisions for regulated utilities to work closely with local governments and give due consideration to their concerns.

The EIR/EIS authors appreciate the information.

Response to Comment 12-7

The comment requests that any proposed activities with the potential to impact any gas pipelines be reviewed and approved by PG&E.

The EIR/EIS authors concur. During the design phase of the project, the District will contact PG&E and coordinate any relocation as early as possible.

Response to Comment 12-8

The comment requests that General Order 1995 clearances be maintained at all times.

The EIR/EIS authors concur. During the design phase of the project, the District will contact and coordinate with PG&E on any clearance issues.

Response to Comment 12-9

The comment mentions that some relocation of facilities may be required.

The EIR/EIS authors concur. During the design phase of the project, the District will contact PG&E and coordinate any relocation as early as possible.

COMMENT LETTER 13 - WESTERN WATERS CANOE CLUB, LAWRENCE M. JOHMANN (APRIL 17, 1997)

Response to Comment 13-1

The comment states that the Draft EIR/EIS does not adequately address the Stream Restoration Alternative. It also states that water-related recreation issues and property value impacts are not addressed.

For additional information on the Stream Restoration Alternative, see Master Response A. Concerns regarding water-related recreation issues are addressed in Response to Comment 13-31. Concerns regarding property value impacts are addressed in Response to Comment 13-33.

Response to Comment 13-2

The comment expresses doubts about the workability of the proposed project, referring to the Downtown Project as an example.

See Master Response E.

Response to Comment 13-3

The comment states that Sections 9 and 10 of the Rivers and Harbors Act, and the jurisdiction of the State Lands Commission should be listed in Table 2.1.

Refer to Responses to Comments 10-28 and 10-29.

Response to Comment 13-4

The comment states that the Stream Restoration Alternative is the only alternative that can satisfy all the stated policies and goals of the Santa Clara County and City of San Jose General Plans to protect and restore waterways and riparian habitats while providing for flood protection and reducing maintenance costs and satisfy the goals of the Santa Clara Basin Watershed Management Initiative.

See Master Response A.

Response to Comment 13-5

See Master Response A.

Response to Comment 13-6

The comment states the belief that the Stream Restoration Alternative would not need a double bypass channel in Reaches 7 and 8 and would be much less expensive than the Preferred Project or the MVI Alternative.

See Master Response A.

Response to Comment 13-7

The comment points out that even if the Stream Restoration Alternative construction impacts are greater than the Preferred Project, the long-term impacts to habitat values in the entire watershed would be greatly minimized with this alternative.

See Master Response A.

Response to Comment 13-8

The comment states that analysis of the Stream Restoration Alternative needs to be at the same level of detail as the Preferred Project and comparisons of viable options need to include construction, mitigation, and maintenance costs.

See Master Responses A and D.

Response to Comment 13-9

The comment states that the diagrams and sketches in the EIR/EIS do not reflect the present condition of the river system.

The diagrams and sketches are meant for the readers to better understand the typical sections of the proposed project and impacts/benefits. They do not depict cross-sections at specific locations of the channel.

Response to Comment 13-10

The comment requests that all concrete rubble be removed along the river.

The project proposes to remove rubble along the channel in construction areas wherever possible. The proposed project will remove approximately 5,605 linear feet (lf) and 116,800 square feet of rubble. Approximately 3,040 lf and 66,700 square feet will be converted to natural bank, a project benefit.

Response to Comment 13-11

The comment states that the removal of fish barriers at Gage Station 23B, Hillsdale Avenue Bridge and Bryan Avenue, should not be part of this project. The comment claims that the District committed to removal of these barriers by fall of 1996 in the Interim Fish Passage Barrier Remediation Project Engineer's Report.

The EIR/EIS authors would like to clarify that the recommendation in the September 1995 Engineer's Report was to provide interim fish passage. The recommendation was presented to the District Board in November 30, 1995 at which the Board approved only providing interim passage at Gage Station 23B. The District Board subsequently approved interim fixes for the barriers at Hillsdale Avenue and just downstream of Ross Creek, and implemented those interim fixes in November, 1998.

Response to Comment 13-12

The comment states the belief that the District is under legal obligation, pursuant to Section 5901 of the Fish and Game Code, to remove all barriers to fish passage on streams for which the District is licensed to appropriate water and that these actions cannot be considered mitigation measures.

Refer to Response to Comment 10-32.

Response to Comment 13-13

The comment requests that the EIR/EIS not address the use of in-stream percolation ponds in Reach 12 as the construction of in-stream dams are no longer permitted.

Refer to Response to Comment 2-16.

Response to Comment 13-14

The comment is concerned that the lack of revegetation proposed for Reach 12 and the loss of mature, overstory trees that provide shade will have a significant adverse impact on water temperatures. The comment goes on to further state that the loss of riparian vegetation will enable more pollutants from street runoff to enter the river.

See Master Response H.

The existing riparian vegetation does little in controlling the amount of pollutants that enter the river because runoff from the surrounding urban area (e.g., from streets, parking lots, and houses) enters storm drains which flow directly to the river, thereby bypassing the riparian habitat. However, the District recognizes the importance that riparian habitat has in providing wildlife habitat and SRA cover, and in controlling streambank erosion. For these reasons, the biological effects of tree removal are incorporated into the impact analyses and appropriate mitigation measures are proposed to compensate for impacts on this highly valuable resource.

Response to Comment 13-15 to 13-18

The comment expresses the opinion that the overflow channel concept will not work, referring to the Downtown Project as an example.

Refer to Response to Comment 13-2

Response to Comment 13-19

The comment states that there are too many maintenance roads proposed.

Refer to Responses to Comments 10-18 and 10-22. Most of the maintenance roads proposed are located in the floodway areas, which are required to be cleared of woody vegetation in order to carry flood flows, therefore not incurring additional impacts. Removing maintenance roads in the floodway areas will not provide any additional riparian habitat since the floodway areas must be kept clear of woody vegetation.

Response to Comment 13-20

The comment claims that the annual maintenance cost estimates for the proposed project are unrealistic, and refers to the Downtown Project as an example.

Refer to Responses to Comments 10-4 and 13-2.

Response to Comment 13-21

The comment requests that the EIR/EIS include a comparison of maintenance cost estimates for each of the alternative projects.

The EIR/EIS authors concur, and a maintenance cost comparison table has been included in Master Response D.

Response to Comment 13-22

The comment expresses confusion about the descriptions of maintenance activities included in the Routine Maintenance Procedure Section and the statement elsewhere in the EIR/EIS that the natural stream area would remain undisturbed except at erosion sites.

The 25-foot wide corridor to remain clear of vegetation mentioned in the maintenance procedure was a guideline for maintenance. The 25-foot wide corridor was defined to follow the existing natural channel corridor within which very few woody vegetation is currently established. This portion of the channel therefore would not require much maintenance. Refer to Master Response C for revisions to Appendix C, which clarify maintenance procedures.

Response to Comment 13-23

The comment states that the Draft EIR/EIS admits that stream erosion will continue with the Preferred Project and proposes an off-site mitigation bank so repairs can be completed with hardscape. The comment concludes that this is unacceptable and could result in piecemeal degradation of the river.

The Draft EIR/EIS does indicate in Chapter 3 (pages 3-46 and 3-47) that there is a potential for future erosion repair activities during the life of the Preferred Project. The first priority for mitigation of impacts caused by repair of erosion sites will be to implement in-kind mitigation on-site. If that is not possible, the mitigation bank would be used as mitigation with the concurrence of USFWS and DFG. Refer to Response to Comments 10-6 and 10-7.

Response to Comment 13-24

The comment states that the MVI Alternative would be an improvement over the Preferred Project and states that there is not enough information provided to perform a proper evaluation of the MVI Alternative.

The Draft EIR/EIS addressed the impacts of the MVI Alternative in each resource chapter. The Draft EIR/EIS identified the MVI Alternative as the environmentally superior alternative under CEQA. However, the MVI Alternative would cost $52 million more than the Preferred Project and have greater socioeconomic impacts. These are two factors that have been considered in determining whether the MVI Alternative is practicable. See Master Response B.

Response to Comment 13-25

The comment states that the Stream Restoration Alternative is the environmentally superior alternative and should be evaluated in a comparative fashion to the Preferred Project.

See Master Response A.

Response to Comment 13-26

The comment claims that once a flood control project fails, the effects are catastrophic.

The EIR/EIS authors agree that catastrophic failure is possible if flood control project is accomplished through constructing levees or floodwalls. The proposed project on the upper Guadalupe River has avoided floodwall or levee elements except at the confluence of Canoas Creek.

Response to Comment 13-27

The comment expresses concern that channel modifications combined with vegetation removal will cause substantial increases in water temperatures.

See Master Response H.

Response to Comment 13-28

The comment states that the Preferred Alternative would increase use of herbicides.

Refer to Master Response C and Response to Comment 5-15.

Response to Comment 13-29

The comment claims to have observed "haphazard" spraying of herbicides in the Guadalupe River. The comment requests a list of herbicides to be used along with details of type and quantity to be applied. The comment also requests details of herbicide use on the Guadalupe River for the past two years.

No documentation has ever been provided to substantiate the claims of irresponsible herbicide use by District employees. The District would welcome any such documentation so that individuals could be held accountable for any improper use of materials. Standard application procedures do not include "haphazard" application of herbicides. Herbicides are applied to target vegetation in a precise manner, and under conditions where the herbicide will not be carried onto non-target vegetation by wind. Native vegetation does have to be removed when it is in a location that compromises the flood-control design of the facility. It is likely that herbicides have been applied within the riparian corridor when there was wildlife present in the river, but wildlife is never intentionally sprayed and is avoided when possible. All materials have been shown not to affect organisms other than the target plant species. Proper application of herbicides within the channel is not polluting. The measures recommended on herbicide labels are considered to be common sense and liability precautions. None of the materials used by the District have restrictions on "reentry period," which means that the area is safe immediately after the material is dry. Refer to Master Response C for additional information about maintenance and herbicides.

Because maintenance practices are expected to change with implementation of any of the flood control alternatives, data on past herbicide use generally would not be directly applicable to future practices. Information on past herbicide use is available for review at the District Offices, by contacting Mark Wander at 408/265-2600.

Response to Comment 13-30

The comment states that the land use section of the EIR fails to discuss compliance with policies about protecting and restoring the riparian corridor.

The proposed project would include some channel widening and some bypass channels to achieve flood protection. The project was designed to maximize the amount of unaltered channel by designing bypass channels where adjacent land uses could accommodate these facilities. The mitigation program presented in the EIR/EIS would further "restore" portions of the stream channel by closing gaps in riparian vegetation and creating shaded riverine habitat.

Response to Comment 13-31

The comment states that the EIR needs to address river access for boating and other recreational purposes.

The purpose of the proposed project is to provide flood protection to a large area in San Jose. The project would allow for planned recreational use of the Guadalupe River Corridor. However, trails, recreational access, and boating facilities are not proposed as part of this project. Therefore, these activities are not evaluated in this EIR/EIS.

Response to Comment 13-32

The comment states that the Draft EIR/EIS does not adequately address the issue of trail access and that fencing of the river is unacceptable.

The District will fence the boundary of its property, when necessary, to protect public safety. The District will work with the City of San Jose and Santa Clara County on providing access at appropriate locations for the proposed river corridor trail system.

Response to Comment 13-33

The comment states that the EIR should address the project's impacts on property values, and references a mid 1980 analysis of property values of homes built on channelized portions of the Portage River in Ohio.

The most serious impact on property values would be associated with the No Project Alternative, which (as described on page 2-24 of the Draft EIR/EIS) would leave about 7,500 buildings and 2,200 acres (7,200 residential units, six public schools 340 acres of commercial and industrial properties, and 114 acres of agricultural land) within the flood zone of a one percent flood. The estimated cost of flood damage from a one percent flood is $280 million. The risk of flood presents an ongoing impact on property values which far outweighs any differential effects of different flood control options.

Although the comment provides no details about the reason for the property value differences cited in the study, the EIR/EIS authors presume that any differences in property values were associated with aesthetic differences. There is a detailed analysis of visual impacts in Section 4.15 of the Draft EIR/EIS. The proposed project would not include channelization of existing natural channels, and is thus not comparable to the cited study. Bypass channels would be earthen structures with minimal hardscape. Over the long term, the project would provide for more contiguous riparian habitat along the upper Guadalupe River and would provide additional opportunities for views of this habitat. It would be highly speculative to attribute different property values to different design options.

Response to Comment 13-34

The comment states that fencing the river can cause safety problems and access to the river corridor and waterway should be provided, at least at established locations.

Refer to Responses to Comments 13-32, 13-64, and 13-65.

Response to Comment 13-35

The comment claims that the primary reason for lack of vegetation and shade cover in the Guadalupe River now is due to actions and policies of the District.

The EIR/EIS authors disagree. Losses of riparian vegetation in the Guadalupe River have been due to major removal of riparian forest by agricultural interests prior to urbanization; past erosion control efforts by others; the channelization of Reach 10B required for the Almaden Expressway widening; and gravel mining in Reach 12.

Response to Comment 13-36

The comment expresses confusion about the descriptions of maintenance activities included in the Routine Maintenance Procedure Section and the statement elsewhere in the EIR/EIS that the natural stream area would remain undisturbed except at erosion sites.

Refer to Response to Comment 13-22.

Response to Comment 13-37

The comment asks for justification of the placement of certain riparian mitigation sites on Plates V-42, V-46, V-51, and V-52 that appear to be at risk from inadequate groundwater.

The planting sites referenced in the comment were considered by the EIR/EIS authors to be suitable for riparian plantings because of their location within the historic riparian zone and position below the top of bank (not evident on these plates). Planting sites in the outer portions of the riparian zone will be planted with species appropriate to the hydrology and soils of the site and will be irrigated longer, if needed to ensure establishment.

No changes to the Draft EIR/EIS are made; however, this issue is addressed further in the mitigation and monitoring plan (Volume VIII).

Response to Comment 13-38

The comment stated that since most comprehensive wildlife surveys were conducted from January 1986 to January 1987, that the surveys need to be updated.

The wildlife surveys, especially the bird surveys, conducted in the 1980's were more intensive than normally conducted for these types of projects, and the wildlife species composition is not expected to change substantially over a 10- to 20- year period. As indicated on pages 4.13-1 and 4.13-2 in the Draft EIR/EIS, to supplement the 1986-1987 intensive surveys, additional reconnaissance-level surveys of wildlife resources in Reaches 6-12, Reach A, Ross Creek, Canoas Creek, and Guadalupe Creek were conducted in November and December 1989; in January, April, May, and June 1990; and in March and October 1992. Wildlife surveys focusing on burrowing owls, other birds, and southwestern pond turtles were also conducted along Reaches A and 12 on June 20 and 27, and July 6 and 13, 1995. The surveys were also conducted to determine if substantial changes in wildlife habitats along the Guadalupe River had occurred. Habitat conditions during 1995 were similar to those described in the 1980s surveys.

For federal endangered species compliance, surveys for California red-legged frogs were conducted in April and September 1997.

Response to Comment 13-39

The comment states that the impacts of in-stream percolation ponds are discussed and that these are no longer in use.

The analysis in the Draft EIR/EIS for the Upper Guadalupe River Flood Control Project assumed two in-stream spreader dams would be operated in Reach 12 and four in-stream spreader dams would be operated in Guadalupe Creek, although these are not presently in operation. This is a conservative analysis based on operations that occurred at the initiation of the EIR/EIS. Refer to Response to Comment 2-16.

Response to Comment 13-40

The comment indicates that the degraded habitat along the Guadalupe River is due to herbicide spraying by the District and the dewatering of the waterways.

As indicated on page 4.12-5 of the Draft EIR/EIS, "vegetation throughout the project area has been degraded or altered by dumping of debris, grading along the top-of-banks, clearing for maintenance, and introduction of non-native plants. Unauthorized human habitation and foot traffic along the River have trampled vegetation in some areas." Refer to Response to Comment 13-35.

Response to Comment 13-41

The comment states that EIR/EIS fails to recognize all of the waterfowl species and ospreys which occupy the project area (e.g., coots, merganser, and cormorants). The comment also requests that the presence of southwestern pond turtles be recognized as occurring throughout the project area.

In Appendix W-A and W-B (Volume III of the Draft EIR/EIS), the American coot is noted as a winter resident and a spring or fall migrant in the affected area; the osprey is noted as a winter resident and a spring or fall migrant in the affected area; and the double-crested cormorant is noted as a winter resident and a spring or fall migrant in the affected area. There were no records for mergansers in the appendix, but they could occur in the affected area as a winter resident and a spring or fall migrant.

Regarding the pond turtle, the following changes are made to the Draft EIR/EIS:

Page. 4.13-15. The second and fourth full paragraphs are modified as follows:

> Potential habitat exists in the project area for several special-status wildlife species, but their presence is unlikely because existing habitats are degraded by human activity. These species include the California red-legged frog, foothill yellow-legged frog, ~~western pond turtle~~, least Bell's vireo, yellow-breasted chat, and tricolored blackbird (Table 4.13-1).
>
> The western pond turtle was petitioned for federal listing on January 15, 1992. The petition included the northwestern and southwestern subspecies of the pond turtle. The project area is within the range of the southwestern subspecies of the pond turtle. On August 11, 1993, USFWS announced that the listing of the western pond turtle did not meet the definition of an endangered or a threatened species at that time. The petition could be revised and resubmitted in the future. ~~No southwestern pond turtles were seen during the previous surveys, including the 1995 surveys.~~ This species was not observed during the 1980s, 1993, and 1995 surveys. This species was observed in the project area during 1997. This species was originally not going to be evaluated for the project because it had not been seen in the area in recent years, but more recent evidence suggests that it occurs in the project area.

Page 4.13-16. A new section is inserted following the San Francisco forktail damselfly discussion (after the sixth full paragraph.

Southwestern Pond Turtle

The southwestern pond turtle occurs from the San Francisco Bay area south to Baja California. Ponds and slow-moving streams provide suitable rearing and foraging habitat and cover for pond turtles. Pond turtles lay their eggs in upland areas, such as scrub, grassland, and savanna habitats. Pond turtles are a slow-growing, long-lived species. They can live to be over 40 years of age. Hatchling pond turtles require shallow water with no or little current. Hatchlings also need emergent vegetation for cover. Pond turtle populations have declined because of the loss of and degradation to wetlands, streams, and adjacent upland habitats. In urban areas, water pollution and storm runoff reduces habitat quality for pond turtles. Urban development also reduces the quality and quantity of upland nesting habitat. Non-native predators (bullfrogs, dogs, and non-native fish) also can reduce or limit local pond turtle populations.

The Guadalupe River is considered poor-quality pond turtle aquatic and upland habitat. Much of the area along the Guadalupe River has been developed and some of the remaining open space is under intensive agriculture, which has eliminated most of the potential upland nesting areas and fragmented riparian vegetation along the river banks. Some potential low-quality nesting habitat could occur in isolated portions of the affected area. Previous flood control projects (reservoirs and bank stabilization projects) have also reduced pond turtle habitat quality along the river and its tributaries. The exotic plant species are also common along the Guadalupe River, which also reduces pond turtle habitat quality. The alteration of the river for flood control has eliminated or altered the distribution and quality of pools used by pond turtles. Basking sites also appear to be limited along the river in the project area, probably because of previous flood control projects.

Pond turtles have occurred historically along the Guadalupe River (Holland pers. comm.). No pond turtles were observed during the reptile and amphibian surveys and other wildlife surveys in the 1980s. No pond turtles were observed during the 1993 and 1995 wildlife surveys. Dr. Dan Holland did not see pond turtles along the Guadalupe River between Coleman Avenue and Taylor Street and between Taylor Street and Hedding Street during his surveys on July 18 and 19 1994 (Holland pers. comm.). Jones & Stokes Associates biologists also found pond turtles at Calero Reservoir and in Alamitos Creek above Mazzone Drive in 1997. Although Dr. Holland did not see any pond turtles during his surveys, he was shown a video tape of a male pond turtle that was taken in or near his survey area. Dr. Holland estimated that in disturbed habitats, such as the Guadalupe River, there could be only 1-2 pond turtles per hectare of water surface, whereas in optimal-quality habitats, there could be over 1000 pond turtles per hectare (Holland pers. comm.).

The presence of bullfrogs, non-native predatory fish, and other predatory animals (e.g., striped skunks, opossums, raccoons, herons, and dogs) increase the level of predation of turtle eggs and young turtles along the Guadalupe River and its tributaries. Competitors such as the red-eared turtles also occur in the area. The presence of water pollution and storm runoff, and the close proximity of urban development to the river reduce habitat quality for pond turtles. Despite these factors, a small number of pond turtles appear to exist along the river. Also, individuals could immigrate into the project area from upstream areas.

Page 4.13-20. The following addition is made following the California red-legged frog insert (refer to Response to Comment 5-11) and above the "Construction Impacts" header.

Potential Loss of Southwestern Pond Turtles and Their Habitat

Southwestern pond turtles probably occur in low numbers along the Guadalupe River and its tributaries in the affected areas and the aquatic and upland habitat is considered poor-quality habitat. Implementation of the project would further fragment the riparian habitat and could eliminate a minor amount of potential nesting habitat. Pond turtles could also be temporarily displaced during construction of the project.

The presence of bullfrogs, non-native predatory fish, and other predatory animals (e.g., striped skunks, opossums, raccoons, herons, and dogs) increase the level of predation of turtle eggs and young turtles. Competitors such as the red-eared turtles also occur in the area. The presence of water pollution and storm runoff, and the close proximity of urban development to the river reduce habitat quality for pond turtles. Despite this factors, a small number of pond turtles appear to exist along the river. Also, individuals could immigrate into the project area from upstream. Under these circumstances, project construction would not significantly affect the species.

No mitigation is required; however, implementing Mitigation Measures V-2 and V-3, a public education program and a vegetation protection plan for riparian and urban forests respectively, could minimize potential impacts on the pond turtle.

Response to Comment 13-42

The comment states that the EIR/EIS is inconsistent regarding potential impacts on wildlife habitat.

The EIR/EIS separates project construction impacts from operation and maintenance impacts. Each of these activities have different potential effects on wildlife and wildlife habitat and vegetation. The comment appears to be lumping these impacts together and assuming there are inconsistencies. Project construction would remove riparian habitat which would fragment wildlife habitat. This impact was considered significant and mitigation measures were recommended to mitigate the impact. Implementing the project would also require maintaining a larger area because of the inclusion of bypass channels and floodway benches. Because the maintenance program incorporates several measures that protect and enhance riparian habitats, these potential impacts was considered less than significant, despite the periodic removal and trimming of vegetation. No changes in the EIR/EIS are needed.

Response to Comment 13-43

The comment expresses concern about the usefulness of the vegetation protection plan and vegetation mitigation plan and claims that the District's action and policies have destroyed vegetation and shade cover in the Guadalupe River.

The EIR/EIS authors disagree. The plans will provide guidelines and policies on how to implement the project and maintenance activities to better protect the environment. Refer to Responses to Comments 13-35 and 13-40.

Response to Comment 13-44

The comment suggests that the Draft EIR/EIS fails to include to list coho salmon as occurring in the Guadalupe River.

The Draft EIR/EIS did not list coho salmon as presently occurring in the Guadalupe River because NMFS does not include the Guadalupe River, or any other stream tributary to the South San Francisco Bay, as critical habitat for the Central California Coast ESU of coho salmon. The only streams entering San Francisco Bay considered to be within the current range of this ESU of coho salmon are Mill Valley Creek and Corte Madera Creek, which are tributaries of North San Francisco Bay. However, in the event that they may occur in the Guadalupe River, measures to protect chinook salmon and steelhead would likely protect coho salmon since their habitat requirements and life history overlap with chinook salmon and steelhead. The following change is made to the Draft EIR/EIS to reflect the anecdotal reports of coho salmon occurrence in the Guadalupe River system.

Page 4.14-5. The following change is made to the first paragraph:

> Coho salmon (*O. kisutch*), which are not native to the Sacramento-San Joaquin River system, apparently occurred in at least some of the streams tributary to the San Francisco Bay (Skinner 1962). Controversy exists over whether coho salmon occurred historically in the Guadalupe River system and there are unconfirmed reports of coho salmon occurring in the Guadalupe River system today.

Response to Comment 13-45

The comment states that more information (e.g., unpublished or obscure records) is available on steelhead and rainbow trout than what was presented in the Draft EIR/EIS.

Please refer to Response to Comment 10-40.

Response to Comment 13-46

The comment disagrees with the statement that there is no historical account of chinook salmon migrating and spawning in the Guadalupe River.

Refer to Response to Comment 10-40.

Response to Comment 13-47

The comment states that genetic testing began in 1993 and that the Draft EIR/EIS contradicts itself regarding the issue surrounding the origin and genetic background of chinook salmon in the Guadalupe River.

The EIR/EIS authors agree.

The following change is made to the Draft EIR/EIS.

Page 4.14-13. The second paragraph is modified as follows:

> Because the origin of these fish is of considerable debate, DFG conducted ~~initiated~~ genetic testing of adult chinook salmon in 1993 and 1994. The purpose of the study was to determine whether Guadalupe River adult chinook salmon differed genetically from hatchery chinook salmon populations from the Sacramento River. The results of the genetic analysis have been inconclusive; relatively small sample sizes and genetic marker selection can limit the ability to identify the exact origin of individuals. Results of the analysis of the 1994 spawning chinook salmon populations in the Guadalupe River show that the genetic origin of 6 of the 29 adult fall-run chinook salmon could not be identified with any known wild or hatchery population sampled to date in the Central Valley. Two of the 29 showed similarities with Russian River fish. However, the study cautioned that more sampling of Central Valley hatchery populations is needed before it can be concluded that these 6 fish are not hatchery strays. The~~ results of the analysis suggest that the origin of the~~ remaining 21 adults sampled in 1994 could not be differentiated from the~~ are the same as~~ Merced River and Feather River hatchery stocks, using the methods employed in the analysis. (Nielson 1995).

Response to Comment 13-48

The comment states that the Guadalupe River chinook salmon are unique and special, and that they need to be protected.

The draft EIR/EIS recognizes that chinook salmon use the Guadalupe River for spawning and that they, and the aquatic and riparian habitats that they depend on, merit protection. To this end, the project has been designed to *minimize* the potential for adverse effects and the Draft EIR/EIS discloses where the project has the potential to adversely affect chinook salmon and their habitat, as it does for steelhead. For project effects that were determined to be significant, the Draft EIR/EIS includes measures to mitigate for these effects.

Response to Comment 13-49

The comment states that Snyder's article (1905) does not state that the Guadalupe River did not discharge water into the Bay in summer. The comment also expresses the opinion that the Guadalupe River has not gone dry in the past 70 years downtown of San Jose.

The commenter is correct in stating that Snyder did not specifically reference the Guadalupe River (which was called Guadalupe Creek in 1905) as not flowing to the Bay during summer, nor did he make reference to any specific stream as not flowing to the Bay for the entire summer. Rather, he described how only one stream in the region, Coyote Creek, flowed to the Bay during the entire summer. With respect to the lower Guadalupe River not going dry in the past 70 years, the EIR/EIS authors appreciate the observations provided by long-time San Jose residents. The difficulty in assessing the applicability of anecdotal information is in determining at what specific location the information applies, particularly when there is no data to support or substantiate the anecdotal information. The best available "official" information on Guadalupe River streamflow is provided by the long-standing USGS stream gaging station located at St. John Street (near Downtown San Jose). A review of the USGS records indicates that for the period 1930-1991, 'zero flow' was recorded in 41 of the 62 years during this period (or conversely, that year-round continuous flow was only recorded as occurring in 21 of the 62 water years from 1930 to 1991). Of these 21 water years where uninterrupted flow was recorded at this site, 20 of the 21 years occurred after 1967.

Response to Comment 13-50

The comment recommends that the discussion of spreader dams operation be removed from the EIR/EIS.

Refer to Response to Comment 2-16.

Response to Comment 13-51

The comment states a concern that the lower part of the upper tributaries of the Guadalupe River do not provide conditions favorable for salmonid spawning and rearing.

See Master Response J.

Response to Comment 13-52

The comment states that the permanent loss of shading will result in warming the river to the point that salmonid survival will be reduced.

See Master Response H.

With respect to the statement about permanent removal of streamside vegetation that provides shade, it should be emphasized that "permanent" refers only to local site conditions. While stream shading will be reduced in some reaches (e.g., Reaches 9 and 10a) relative to existing conditions, overall stream shading will increase over the long-term because of the revegetation efforts in Reaches 10B and 12.

Response to Comment 13-53

The comment requests that construction in the channels should not be permitted after August 15th to avoid impacts on chinook salmon.

The EIR/EIS authors disagree.

In evaluating the potential effects of the timing of construction on chinook salmon, the impact analysis takes into consideration the fact that because chinook salmon have a protracted migration and spawning season only a percentage of the total spawning run is likely to be in the Guadalupe River by mid-October; that suitable conditions for chinook salmon egg incubation typically do not occur until November because of excessive water temperatures; and that chinook salmon tend not to migrate into the project reaches until November. The EIR/EIS authors believe that construction timing will minimize the potential for impacts on chinook salmon while ensuring that the project can be completed in the shortest time frame, thereby minimizing the number of years that potential impacts on chinook salmon would occur.

Response to Comment 13-54

The comment requests that the Draft EIR/EIS update the discussion related to listed fish species.

The EIR/EIS authors concur.

Response to Comment 2-5 discusses changes made to the Draft EIR/EIS. As for the comment related to coho salmon, the commenter is referred to Response to Comment 13-44.

Response to Comment 13-55

The comment requests clarification on the affect the proposed maintenance program will have on stream side vegetation and requests clarification of the operation of in-stream percolation ponds.

As indicated on page 4.12-21 of the Draft EIR/EIS, the proposed maintenance program would result in less mechanical and chemical vegetation control since native vegetation would remain untouched except in a 25-foot-wide strip centered on the existing low-flow channel in Reaches 6-12. The District used to operate in-stream percolation ponds in Reach 12 during summer and the analysis assumes the continued operation of the ponds (see page 4.14-26 in the Draft EIR/EIS). Refer to Response to Comment 2-16.

Response to Comment 13-56

The comment states that the extra 2.9 miles of habitat that will be available to migrating salmonids after the Alamitos drop structure is laddered is currently not suitable for salmonid spawning.

The purpose of the EIR/EIS is to evaluate the effects of the proposed actions associated with the project. The EIR/EIS authors believe that, in general, barrier removal will benefit fish. It should be pointed out, however, that while the Draft EIR/EIS concludes that barrier removal will have a beneficial effect on salmonids, it does not count these actions as mitigation for any effects associated with the Upper Guadalupe River FCP. The commenter is referred to Responses to Comments 2-25 and 2-40 for additional discussions related to barrier removal.

Response to Comment 13-57

The comment questions the suitability of lower Alamitos and Guadalupe Creeks for spawning and rearing salmonids.

See Master Response J.

Response to Comment 13-58

The comment questions the suitability of Alamitos and Guadalupe Creeks for chinook salmon spawning.

See Master Response J.

The EIR/EIS authors recognize that chinook salmon will probably not realize the same benefits as steelhead from the laddering of the Alamitos drop structure. However, as you point out, chinook salmon are found from tidewater to Reach 12. Because these fish have a strong urge to migrate upstream, it is not unreasonable to expect that some chinook salmon will migrate into the lower tributary streams on high flows that occur during the rainy season. Because these high flows typically do not occur until late-November and December it is likely that only late-arriving chinook salmon will be able to take advantage of the improved access. The project does include revegetating and restoring sections of the river channel (e.g., Reaches 10B and 12) and these improvements are likely to benefit chinook salmon which currently use these reaches of the Upper Guadalupe River FCP .

Response to Comment 13-59

The comment asks why the impacts of the spreader dams formerly operated by the District are not being included in the Draft EIR/EIS if the District is seeking to reoperate the spreader dam program.

The Draft EIR/EIS acknowledges the fact that the District operated the spreader dam program until recently and that the District is seeking to reoperate them in the future. The instream spreader dams were operated for many years and, pursuant to CEQA, are included in the analysis as existing conditions. The EIR/EIS authors disagree that the continuation of the spreader dam program would eliminate "all spawning and rearing possibilities for salmonids in the creeks" because there are many miles of suitable habitat on the upper portions of these creeks upstream of the spreader dam sites and because the spreader dams are operated to minimize the potential for impacts on fish (especially on migrating fish) by limiting their period of operation to times when fish migration is reduced. The fact that resident rainbow trout exist in these tributary streams despite years of operation of these in-stream spreader dams demonstrates that salmonid production is not precluded with operation of instream spreader dams. However, the EIR/EIS authors agree, and the Draft EIR/EIS acknowledges the fact, that the ponded water habitats behind these dams may not provide suitable habitat for rearing steelhead during summer because of elevated water temperatures. See also Responses to Comments 2-4 and 2-16.

Response to Comment 13-60

The comment states that the river will continue to have erosion and sedimentation problems until the channel is returned to a natural and stable condition.

The intent of the Draft EIR/EIS is to evaluate the effects of the project within the context of existing conditions and to make a determination of whether the project will exacerbate those effects deleterious to the natural environment of the river to the degree that the effects are considered significant. While it is desirable to restore the river to its natural or predisturbance condition, complete restoration of natural stream processes is not feasible. For natural stream processes to occur, the channel would have to be connected to a floodplain capable of handling overflow from the channel. While this process produces many desirable effects in natural settings such as reducing flooding downstream and nutrient deposition on the floodplain, these natural processes are no longer feasible in the study area as the land surrounding the channel has become almost entirely urbanized. With respect to maintenance associated with erosion and sedimentation, the expectation is that the project will reverse the trend in maintenance activities over the long-term because the project will increase channel capacity. See also Master Responses C and E.

Response to Comment 13-61

The comment questions the success of creating artificial undercut banks as a replacement of natural undercut banks impacted by the project. The comment further states that no remedial actions are explicitly stated in the Draft EIR/EIS should the mitigation efforts to replace undercut banks fail. The comment references the damages to the mitigation plantings in Contracts 1 and 2 of the Downtown project as an example of how mitigation has failed.

See mitigation and monitoring plan, Volume VIII of the Final EIR/EIS.

Response to Comment 13-62

The comment expresses uncertainty about whether Masson Dam is located within the project area.

Masson Dam is not located within the proposed flood control construction project area, however it is within the watershed where the District is proposing to mitigate for the project impacts. The cost for providing fish passage above Masson Dam is included in the total project costs.

Response to Comment 13-63

The comment questions the suitability of Guadalupe Creek for chinook salmon spawning.

Refer to Response to Comment 13-58.

Response to Comment 13-64

The comment states that the EIR/EIS should address non-contact water recreation.

The proposed project would not alter the use of the Upper Guadalupe River for non-contact water recreation. Use of the river would remain the same after completion of the project. Temporary impacts during construction could result in certain reaches of the River being inaccessible. Refer also to Response to Comment 13-31.

Response to Comment 13-65

The comment wants to be assured that the proposed project does not further impact the use of the channel resource.

The District appreciates the efforts of the Western Water Canoe Club to get the river cleaned up and restored to a more natural state so that the public can enjoy a larger portion of this public resource. The project proposes to remove rubble along the channel wherever possible. Refer to Response to Comment 13-10. In addition, rock vortex weirs were chosen to be constructed at key locations to enhance biological goals of migration fish passage because it also would not significantly affect small water craft passage during moderate and high flows. These activities would enhance existing canoeing and kayaking recreational activities.

Response to Comment 13-66

The comment states that the cumulative impact section should include a discussion of the planned development project downstream of Highway 237, the Downtown Guadalupe River Flood Control Project, and the District's Spreader Dam Program.

There are two projects on the Guadalupe River downstream of Highway 237. The first is an office building development with site grading, drainage, and landscaping. This work does not affect the Guadalupe River or the District's levees, except for the construction of an outfall and/or pump station to drain the site. The second project, sponsored by the Valley Transportation Agency, consists of the development of a wetland mitigation site. This work would involve temporary impacts to the levee and river. Because these projects have little or no impact on the Guadalupe River, they have not been included in the cumulative impact section.

Information on the Downtown Guadalupe River Flood Control Project has been updated; see Master Response F. The spreader dam program, referred to as the Instream Recharge Program, has been added to the cumulative impact section; refer to Response to Comment 2-4.

Responses to Comments 13-67 through 13-69

The comments state that the failed mitigation plantings in Contract 1 and 2 of the Downtown project and other problems with the bypass channels and the low flow channel should be addressed in the cumulative impacts section.

See Master Response F.

Response to Comment 13-70

The comment requests that the failed mitigation plantings for the River Park Project along the west bank gabions in the southern end of Contract 3 be addressed in the cumulative impact section.

The overall impacts of the River Park Project are addressed in the cumulative impact section. Most of the referenced plantings were washed away in the 1995 floods and will be replaced.

Response to Comment 13-71

The comment requests that the trees cut down at the top of the west bank levee in Reach A be addressed in the cumulative impact section.

These trees are outside the levees and are thus outside the Guadalupe River area. It is not appropriate to consider them in the cumulative impacts for the Upper Guadalupe River Project.

Response to Comment 13-72

The comment asks for clarification on whether the project will or will not impact wetlands and other waters of the U.S.

Page 5-2 of the Cumulative Impacts chapter reports that the Downtown Guadalupe Project will not affect wetlands and jurisdictional waters of the United States. This does not contradict pages 4.12-25 and 4.12-26, which report that the Upper Guadalupe River Project will affect 1.85 acres of wetlands and 10.16 acres of other waters. With modifications to the Upper Guadalupe River Project, impacts to wetlands and other waters have been reduced to 1.47 acres and 10.13 acres, respectively.

No changes to the Draft EIR/EIS are needed.

Response to Comments 13-73 through 13-75

The comments request that the following be added to the list of historic projects in Table 5-3 that have affected the Guadalupe River system: dumping of concrete rubble in the river, in-stream spreader dams, dams and drop structures below Vasona Reservoir on Los Gatos Creek, Masson Dam on Guadalupe Creek, and hardscape materials used in the river and creeks.

Refer to Response to Comment 2-4 and 10-35.

The Draft EIR/EIS is revised as follows:

Page 5-3. The first three full paragraphs are modified as follows:

- Guadalupe River Park. The approved Guadalupe River Park Project, sponsored by the City of San Jose Redevelopment Agency, is adjacent to the Corps' Downtown Guadalupe flood control project, at the top of bank and beyond and includes the River

Walk Project and the Confluence Point and West Project. The River Walk Project between Woz Way and Park Avenue consists of a river walk system along the top of banks. The Confluence Point and West Project is at the confluence of Los Gatos Creek with Guadalupe River. This project includes riverbank gabions and a pedestrian bridge over Los Gatos Creek (Talbot 1993).

~~In addition to the impacts associated with the Corps flood control project along the same reach of the Guadalupe River (Reach 3), this project will affect 0.8 acre of riparian habitat.~~ The Corps prepared an EA/IS for the I-280 to I-880 flood control project (dated January 2, 1991) to address additional impacts on riparian corridor vegetation and fish and wildlife habitat resulting from incorporation of trail construction and recreational use from the River Park Project. Impacts and ~~M~~mitigation for loss of riparian habitat as a result of adopting the locally preferred flood control plan ~~will consist of 4.7 acres of native riparian habitat plantings~~are included in the numbers for the Downtown Guadalupe River Project.

- The Guadalupe River Park South Corridor Master Plan from I-280 to Coleman Avenue. This proposed project is a master plan for the development of recreational facilities along the Guadalupe River. No riparian habitat removal is expected to result from this project. Potential impacts from trail system development and recreational use will be addressed in an EIR when the park master plan is finalized. These impacts could include disturbances to sensitive wildlife and trampling of existing riparian vegetation and riparian revegetation areas.

Page 5-4. The first paragraph is modified as follows:

- San Jose International Airport Expansion Plan. The airport expansion plan ~~would include~~ proposes the replacement of the Airport Parkway Bridge, construction of a new bridge south of Airport Parkway Bridge, and the widening of Airport Boulevard. Potential impacts to riparian vegetation related to bridge construction is mitigated by the mitigation plan proposed for this project and presented in this EIR/EIS. Widening of Airport Boulevard would not have adverse biotic resource impacts.

Page 5-7. The fifth paragraph is modified as follows:

No previous studies have analyzed the cumulative impacts of this and other planned projects relative to the historical extent and distribution of riparian habitat along the Guadalupe River system. Substantial portions of the system have been highly disturbed. Table 5.3 lists previously constructed water management projects that may have reduced the extent of riparian habitat along the Guadalupe River and its tributaries. Because many small urban, residential, and agricultural development projects have occurred within the Guadalupe River system, only major projects are included in Table 5.3. Actions such as dumping of concrete rubble cannot be accurately tabulated by year.

Page 5-10. Table 5.3 is modified by adding the following:

Affected Reach	Project Description	Construction Date
Los Gatos Creek		
Downstream of Vasona Reservoir	series of three drop structures	1972
Guadalupe Creek		
Downstream of Guadalupe Reservoir	Masson Dam	Pre-1940

With regard to the dumping of concrete rubble into the river and the extent of hardscape used in the river, the Draft EIR/EIS discusses system-wide impacts on page 5-12. The Habitat Restoration Group estimated that approximately 4.0 bank miles of the Guadalupe River (3.3 percent of the Guadalupe River system total of 119.3 bank miles) have been modified through the installation of gabions, concrete lining, rip-rap, and underground culverts; primarily in the last 60 years. The Downtown Guadalupe River Project is expected to result in the hardscaping of approximately 9,894 linear feet of bank, including under bridges~~2-2.5 additional bank miles~~. The Upper Guadalupe River Project will remove approximately ~~3,375~~ 3,040 linear feet (0.6 bank miles; ~~84,300~~ 66,700 square feet) of rubble and result in the hardscaping of approximately 0.5 additional bank miles for a net decrease in hardscape. In addition, the habitat impacts of the hardscape will be mitigated. The Upper Guadalupe River Project will, therefore, not contribute to cumulative bank hardening.

Page 5-12. The first paragraph is modified as follows:

> Currently, riparian habitat occurs along 60.9 bank miles of the Guadalupe River system (51.0 percent of the system total of 119.3 bank miles). Approximately 16.5 bank miles of riparian habitat occurs along the Guadalupe River (44.0 percent of the Guadalupe River; total of 37.5 bank miles). Approximately 4.0 bank miles (3.3 percent of the system total) have been modified through the installation of gabions, concrete lining, rip-rap, and underground culverts, primarily in the last 60 years. The remaining areas have been converted to ruderal vegetation, upland landscaping, and bare areas. The effects of these past activities are reflected in the description of the affected environment. Existing amounts of major habitats in the Guadalupe River system are summarized in Table 5.4.
>
> The Downtown Guadalupe River Project is expected to result in the hardscaping of approximately 9,894 linear feet of bank, including under bridges. The Upper Guadalupe River Project will remove approximately 3,040 linear feet (0.6 bank miles; 66,700 square feet) of rubble that would become natural bank and result in the hardscaping of approximately 0.5 additional bank miles for a net decrease in hardscape (Table 5.4a). In addition, the habitat impacts of the hardscape will be mitigated. The Upper Guadalupe River Project will, therefore, not contribute to cumulative bank hardening.

TABLE 5.4a

CHANGES IN HARDSCAPE AS A RESULT OF IMPLEMENTATION OF THE PREFERRED PROJECT

Approximate Location	Channel Length (feet)	Area (SF)	Existing Cover	Future Cover
Virgina Street erosion site	150	11,000	boulders, mats, gravel	natural
Erosion sites along Reach 7	750	4,300	concrete rubble	bio-tech erosion protection
Willow Glen Way Bridge	40	1,200	concrete wall	gabions
Willow Glen Way Bridge	40	1,000	rock	gabions
Pine Ave outfall	10	200	sack concrete	gabions
Almaden Road downstream of Malone	200	2,000	rock	cribwall
Almaden Road downstream of Malone	550	11,000	sack concrete, rubble	cribwall
Malone Road	450	9,000	concrete wall	cribwall
Malone Road	770	15,400	concrete rubble	cribwall/gabions
Curtner Ave	270	5,400	concrete wall	cribwall
Curtner Ave	80	1,600	concrete rubble	cribwall
South Bound Almaden Expwy	140	2,800	concrete wall	cribwall
along Reach 10B, east bank	1750	17,500	gabion	natural
gage 23B	150	22,500	rock	natural
gage 23B	5	300	concrete (gage)	concrete (gage)
existing Hillsdale Ave	40	1,400	grouted boulders	natural
existing Hillsdale Ave	70	4,000	concrete lining	natural
upstream of Capitol	100	5,000	concrete rubble	natural
Low Flow Crossing	30	1,000	grouted boulders	natural
downstream of Branham Lane	10	200	sack concrete	cribwall
Total:	5,605	116,800		

Response to Comment 13-76

The comment requests that the EIR/EIS specify when and where the mitigation for the Downtown project will occur. The comment further states that no further losses of riparian and SRA habitat should be permitted until the mitigation for the Downtown project is in place and proves to be successful.

See Master Response F. The Upper Guadalupe River Flood Control Project includes mitigation for indirect and direct impacts and mitigation for cumulative impacts attributed to the project. In addition, Reaches 10B and 12 will be constructed early in project implementation, so that substantial portions of proposed mitigation will be in place prior to construction. The Upper Guadalupe River Flood Control Project does not, therefore, need to wait for implementation due to uncertainty regarding mitigation for the Downtown project.

Response to Comment 13-77

The comment questions the suitability of the tributary streams for salmonids.

See Master Response J.

Response to Comment 13-78

The comment states that the cumulative impact analysis is deficient because the mitigation measures for the Downtown Guadalupe River Flood Control Project are being reevaluated.

Refer to Response to Comment 10-35.

Response to Comment 13-79

The comment states that barrier modification on Alamitos Creek is being claimed for the Downtown project and cannot be used as mitigation for the Upper Guadalupe River FCP.

See Master Response F.

Response to Comment 13-80

The comment states that the EIR/EIS must be revised to correct the listed problems and that the Stream Restoration Alternative must be thoroughly addressed.

See other responses to comments in Letter 13 and Master Response A.

Response to Comment 13-81

The comment expresses the opinion that the Preferred Project will not work, referring to the Downtown Project as an example. The comment recommends construction of a demonstration Stream Restoration Project on Guadalupe Creek.

See Master Response E. The area suggested for a demonstration project is being considered for mitigation for the Downtown project. A fluvial geomorphological approach is proposed with the intent to restore a degraded area and provide for salmonid and steelhead habitat.

Response to Comment 13-82

The comment states that the proposed demonstration project would restore a degraded area and provide salmonid habitat and that an EIR for the demonstration project should be relatively easy to complete.

Refer to Response to Comment 13-81.

Response to Comments 13-83 to 13-86

The comment recommends construction of a demonstration stream restoration project on Guadalupe Creek and a stream restoration project for the rest of the proposed flood control project area.

See Master Responses A and E and Response to Comment 13-81.

Response to Comment 13-87

The comment reiterates the recommendation that an alternative plan, described in Comments 13-81 through 13-86, be implemented.

Refer to Responses to Comments 13-81 through 13-86 for evaluation of the alternate proposal.

COMMENT LETTER 14 - LIFEWEB, RICK BERNARDI (APRIL 18 AND APRIL 21, 1997)

Response to Comment 14-1

The comment requests that pertinent information about historic flooding on the Guadalupe River be incorporated in Section 2.3, Purpose and Need for Project.

The following change is made to the Draft EIR/EIS:

Page 2-4 is modified to insert the following sentence at the end of the first paragraph under 2.3 PURPOSE AND NEED FOR PROJECT:

> The dates of historic flooding, discharge volumes, and flow rates of the one percent flood at various locations along the Upper Guadalupe River and its tributaries are provided in Chapter 4 in Tables 4.2-2 and 4.2-3.

Response to Comment 14-2

The comment asks if the Draft EIR/EIS is referring to sediment deposition within the river channel or on the floodplain.

The Draft EIR/EIS is referring to sediment deposition problems in the river channel.

Response to Comment 14-3

The comment claims that according to the principles of fluvial geomorphology, bank erosion and sediment deposition are the result of instability due to channelization.

The EIS/EIS authors agree that channelization is one of many factors that can cause bank erosion and sediment deposition problems. The historic straightening (i.e., Lewis Canal) of the river in Reaches 7 and 8 is one area where erosion is a problem. The upper Guadalupe River project is designed in terraces to recreate the natural stream/floodplain function to reduce the stress on stream banks and transport sediment through the system.

Response to Comment 14-4

The comment asks for clarification over regarding acreage subject to flooding in the project area.

The 5,200 acres flooded area referred in the Draft EIR/EIS is for the entire Guadalupe River watershed floodplain. The proposed project will provide flood protection for up to the 100-year flow for 2,200 acres of land within the upper Guadalupe River watershed floodplain. The text in the Draft EIR/EIS will be revised to clarify this for readers.

Response to Comment 14-5

The comment asks for the one percent volume of water in cubic feet per second considered for the project.

The one percent flood flow varies along the Guadalupe River. These numbers are listed on Table 4.2-3 of the Draft EIR/EIS.

Response to Comment 14-6

The comment asks for identification of the mean depth of the one percent flood along the river with the No Project Alternative.

The depth of the one percent flood varies along the river. The one percent water surface elevations profile for the No Project Alternative along the river is shown in the Flood Insurance Study Report prepared by the Federal Emergency Management Agency.

Response to Comment 14-7

The comment asks for a comparison between the one percent flood flow and the 1996-1997 flood flows.

Table 4.2-2 of the Draft EIR/EIS shows the flows and frequencies of previous floods. The Table is updated to include 1998 flood data. There was no flooding in 1996-97 in the Guadalupe River.

The following change is made to the Draft EIR/EIS:

Page 4.2-4. Table 4.2-2 is modified as follows:

TABLE 4.2-2

GUADALUPE RIVER FLOOD HISTORY

Date	Discharge (cfs) United States Geological Survey Gage Downstream of Los Gatos Creek	Discharge (cfs) District Gage at Almaden Expressway
February 27, 1940	8,680	630
February 2, 1945	6,600	2,460
January 12, 1952	8,000	2,550
April 2, 1958	9,150	6,220
February 19, 1980	7,910	2,970
March 31, 1982	7,340	3,790
January 24, 1983	7,130	4,930
February 18, 1986	9,140	4,310
January 9, 1995	9,000	8,470
March 10, 1995	10,500	5,590
February 3, 1998	7,550	6,725

Response to Comments 14-8 and 14-9

The comment asks if any of the historical floods have exceeded one percent flood and what were the flows of any one percent floods.

Refer to Response to Comment 10-26.

Response to Comment 14-10

The comment asks for an explanation of the statement "Local drainage problems would continue to affect areas near the airport in the vicinity of Reach A."

Refer to Response to Comment 9-15.

Response to Comment 14-11

The comment asks if the lands which have been inundated in the past floods are within the Guadalupe River floodplain.

The areas inundated in the past floods are within the Guadalupe River floodplain.

Response to Comment 14-12

The comment asks that information on costs be included in Chapter 2.3, inquires about discrepancies in costs between the Engineers Report and Chapter 3, and asks how much of the project would be funded by federal tax dollars.

Section 2.3 focuses specifically on the project purpose and need, and cost information is thus not appropriately presented in this section. Cost information from the Engineer's Report is summarized in the following Chapter, which presents the Preferred Project and Alternatives. Table 3.1 totals up the cost for each Reach and presents a total of $109.7 million, while the Engineer's Report simply rounds this figure to $161.3 million. The present estimate of potential federal funding is about $54 million.

Response to Comment 14-13

The comment asks why the District is proposing to start construction of a project for which there is no funding for completion of the project.

Every stage of construction will provide some protection. The District is striving to provide as much protection as soon as possible. The District has been very determined in seeking local, state and federal funding for this project. Currently, the District has succeeded in requesting the U.S Army Corps of Engineers to conduct a feasibility study for this project, which could lead to federal assistance. The District will continue to seek alternative funding to expedite completion of the project. If federal funding is not obtained, the District will construct the project in stages as funding becomes as available.

Response to Comment 14-14

The comment claims that the project is not acceptable as it will benefit a small segment of society by subsidizing the cost of building and locating within a floodplain, and spreading that cost to all of society.

Since the decision has already been made to locate structures and urban infrastructures in these areas, failing to provide flood protection has ramifications that extend far beyond the financial well-being of the individuals who live in the floodplain. Allowing these property improvements to be damaged by floods creates numerous costs to society as a whole: emergency assistance, disaster relief, transportation and business disruptions, and economic inefficiencies created by damage to property improvements and infrastructure. The urbanized floodplain is not separate from the rest of the city, but linked by relationships (economic, financial, and otherwise) to other areas. A flood control project would particularly benefit floodplain residents, but would also provide substantial economic benefits to society as a whole.

Response to Comment 14-15

The comment states that the National Marine Fisheries Service should be listed in Table 2.1.

The National Marine Fisheries Service (NMFS) was inadvertently omitted from the table. NMFS was added to Table 2.1 under the Endangered Species Act; Refer to Response to comment 2-12.

Response to Comment 14-16

The comment states that the Draft EIR/EIS is heavily weighted towards the Preferred Project, with some discussion of the MVI Alternative and the No Project Alternative.

The Preferred Project, MVI Alternative, and No Project Alternative are considered in equal level of detail. It must be noted that only impacts of the MVI Alternative that are different from the Preferred Project were discussed in detail in the Draft EIR/EIS to avoid repetition. Each alternative is an alternative that could be selected based on the information contained in the Draft EIR/EIS. See Response to Comment 242-6.

Response to Comment 14-17

The comment states that the Draft EIR/EIS is heavily weighted towards the Preferred Project, with the MVI Alternative receiving significantly less consideration.

Refer to Response to Comment 14-16.

Response to Comment 14-18

The comment urges consideration of the Stream Restoration Alternative to provide a range of alternatives.

See Master Response A.

Response to Comment 14-19

The comment states that the short-term impacts of the Stream Restoration Alternative are outweighed by the long-term benefits to the ecosystem.

See Master Response A.

Response to Comment 14-20

The comment advocates the Stream Restoration Alternative.

Refer to Master Response A

Response to Comment 14-21

The comment states that the Preferred Project is not the Least Environmentally Damaging Practicable Alternative (LEDPA), that the MVI Alternative would at least be the LEDPA, and that the Stream Restoration Alternative in the long-term would be the LEDPA.

The MVI Alternative is identified in the Draft EIR/EIS as the environmentally superior alternative under CEQA. However, the MVI Alternative would cost $52 million more than the Preferred Project and have greater socioeconomic impacts. These are two factors that have been considered in determining whether the MVI Alternative is practicable. See Master Response A and B.

Refer to Master Response A for discussion of the reasons for rejecting the Stream Restoration Alternative.

Appendix D (Volume III of the Draft EIR/EIS) includes a Section 404(b)(1) alternatives analysis. Based on the analysis in the Draft EIR/EIS and refinements to the analysis as a result of comments received on the Draft EIR/EIS, the Section 404(b)(1) alternatives analysis concludes that the Stream Restoration Alternative is not the LEDPA (see Appendix D in the Final EIR/EIS).

Response to Comment 14-22

The comment requests that the construction and maintenance costs of the Preferred Project, MVI Alternative, and the Stream Restoration Alternative be compared.

See Master Responses A and D.

Response to Comment 14-23

The comment claims that the project is not acceptable as it will benefit a small segment of society by subsidizing the cost of building and locating within a floodplain, and spreading that cost to all of society.

Refer to Response to Comment 14-14

Response to Comment 14-24

The comment advocates the Stream Restoration Alternative.

Refer to Master Response A

Response to Comment 14-25

The comment asks when juvenile anadromous salmonids are expected to complete their downstream migration.

Figure 4.14-2 in the Draft EIR/EIS presents the approximate temporal occurrence of adult and juvenile chinook salmon and steelhead in the Guadalupe River. "Approximate" refers to the inability to exactly pinpoint when juveniles would be outmigrating because of the variability in environmental conditions (such as water temperature) from year to year and species behavior.

Response to Comment 14-26

The comments asks whether or not salmonids would be expected to be in the river during construction of the project.

There is the potential for salmonids to occur in the river both within and outside of the proposed project area during project construction. However, the EIR/EIS authors believe that the protective measures proposed by the District during project construction, in combination with the proposed mitigation measures, will minimize the potential for significant impacts on these fish and will ensure the continued existence of salmonids in the river system during project construction. The following change is made to the Draft EIR/EIS to increase the level of protection for resident species and outmigrating salmonids (i.e., smolts).

The following change is made to the Draft EIR/EIS:

Page 4.14-29. The last paragraph is modified as follows:

> **Potential Impacts on Fish Migration and Spawning Due to Channel Construction.** To further reduce the likelihood of impacts on fish from construction activities, the District proposes to limit in-channel construction (i.e., that occurring between the top of one bank to the top of the opposing bank) to the April 15 to October 15 period. Construction outside this period would require prior approval from DFG. Construction in the ~~channel invert~~ water or other construction activities requiring stream dewatering, heavy equipment operation in the channel, or stream crossings would be limited to the May 1 to October 15 period with the stipulation that such activities can commence before June 1 only if field surveys (consisting of a minimum of 3 days of sampling) indicate that no juvenile salmonids are present in the project vicinity and that average daily water temperatures have exceeded 64°F for a minimum of 3 days in a row (generally, conditions for steelhead trout and chinook salmon decline when water temperatures exceed 64°F in spring).

Response to Comment 14-27

The comment asks when adult salmonids are expected to return to the construction area.

Please refer to Response to Comment 14-25.

Response to Comment 14-28

The comment asks what are the District's plans in the event that salmonids are present in the river during construction.

Please refer to Response to Comment 14-26.

Response to Comment 14-29

The comment asks what herbicides would be used as part of the maintenance program.

Table C.1 in Master Response C provides a list of herbicides used by the District.

Response to Comment 14-30

The comment asks what carcinogenic effect the herbicides have on human and animals.

None of the herbicides used by the District has been determined to have carcinogenic effects. This is based on information provided in Material Safety Data Sheets for each herbicide. None of the herbicides used by the District has been listed by the State of California in its list of chemicals known to the State to cause cancer or reproductive toxicity. Also see Master Response C.

Response to Comment 14-31

The comment asks what mutagenic effect the herbicides have on human and animals.

Based on information provided on Material Safety Data Sheets for each compound, none of the herbicides used by the District has been determined to have mutagenic effects. See Master Response C.

Response to Comment 14-32

The comment asks how the herbicides affect pituitary glands of humans and animals.

Material Safety Data Sheets (MSDS) for herbicides used by the District do not indicate effects on pituitary glands (see MSDS in Master Response C). However, it is not apparent whether specific tests for pituitary gland effects have been conducted.

Response to Comment 14-33

The comment asks how the herbicides affect internal organs of humans and animals.

Information on testing of herbicide compounds is presented in the Material Safety Data Sheets, which are included in Master Response C. High doses of some herbicides can affect the liver. Proper application is not expected to have any adverse effects.

Response to Comment 14-34

The comment asks what toxic effects the herbicides have on humans and animals.

Toxicity information regarding herbicides used by the District is presented in the Material Safety Data Sheets, which are included at the end of Master Response C. Toxicity of compounds used by the District is generally low.

Response to Comment 14-35

The comment asks what studies have shown regarding persistence of the herbicides in stream benthos.

Rodeo, the only herbicide currently used by the District in on-stream aquatic situations does not bioaccumulate because it breaks down rapidly into carbon, nitrogen and oxygen, and is thus not expected to persist in the aquatic environment. Herbicides used in terrestrial applications are applied in such a manner as to avoid dispersal into the aquatic environment.

Response to Comment 14-36

The comment states that the District proposed to construct maintenance road and ramps within the riparian corridor. The comment asks if the roads and ramps would be required with the Stream Restoration Alternative.

Refer to Responses to Comments 10-18 and 13-19. Maintenance roads would still be required for the Stream Restoration Alternative.

Response to Comment 14-37

The comment asks that the purpose for the maintenance roads and ramps be explained.

Refer to Responses to Comments 10-18 and 13-19. The maintenance roads and ramps are to service regular and emergency maintenance activities necessary to protect the public and reduce flood hazard.

Response to Comment 14-38

The comment asks for the estimated cost of the maintenance program for the Preferred Project, over the 100-year life of the project.

Refer to Response to Comment 13-21.

Response to Comment 14-39

The comment asks if the Stream Restoration Alternative would require a mitigation bank for erosion repair of a similar size to that required for the Preferred Project.

The potential erosion repair impact to stream bank per year stated in the Engineer's Report is an estimate based on past maintenance records. These figures were used by the EIR/EIS authors to calculate acreage for mitigation banking. Actual protection measures will be selected at each erosion site in progression, beginning with preventive measures and non-structural where appropriate. For the Stream Restoration Alternative, the same method of estimating for mitigation banking would be used.

Response to Comment 14-40

The comment asks where the proposed mitigation bank would be located.

The locations of proposed mitigation for the project are shown in the habitat mitigation and monitoring plan.

Response to Comment 14-41

The comment asks for a detailed explanation of how the river came to be dry, and what led to the settlement agreement.

The information about the settlement agreement was summarized in the project description to provide context regarding how flows in the Guadalupe River would be managed. The Draft EIR/EIS makes no inferences and draws no conclusions about why the river was dry. A detailed discussion of the flow management issues involved in the dispute with the Department of Fish and Game is beyond the scope of the EIR/EIS, which addresses flood control on the Guadalupe River.

Response to Comment 14-42

The comment requests assurances that the step-pool ladder proposed for the drop structure will conform to Department of Fish and Game specifications.

The step-pool ladder design was reviewed and approved by the Department of Fish and Game and National Marine Fisheries Services.

Response to Comment 14-43

The comment requests an explanation of why Highway 87 was constructed below the river invert.

The EIR/EIS authors appreciate the concern expressed in the comment, but because the highway was not constructed by the District, information regarding the historical circumstances surrounding its construction is not available in District files.

Response to Comment 14-44

The comment claims that the probability presented in the cumulative risk section is flawed.

The EIR/EIS authors disagree. During an average 30-year home loan period, the probability that a one percent flood will occur, or will be exceeded, approaches 30 percent. Consider the example of a special deck of cards consisting of 99 cards and one joker. When a card is drawn, there is a 1 in 100 probability that the joker will be drawn. If one is to do that 30 times (replacing the card in the deck each time), the probability that the joker will be drawn at least once within that 30 times approaches 30 percent. The formula used in this probability calculation is

$P_{i,n} = 1 - (1 - i)^n$ where $P_{i,n}$ is the probability that an event of probability i could happen in n years.

Response to Comment 14-45

The comment asks what effect continued development will have on the one percent design flow.

The one percent design flood flow used by the District as its design standard was developed based on the city and county general plans. Development within a watershed is required to mitigate for any impacts it has on the watershed or upstream or downstream of the development.

Response to Comment 14-46

The comment requests a detailed explanation of the FEMA flood insurance program.

The FEMA flood Insurance Program is explained in Appendix G of the Engineer's Report.

Response to Comment 14-47

The comment asks why the District uses the same standard as FEMA.

The one percent flood level is a common standard recognized nationwide as a generally acceptable level of risk for an urban area. It is also the minimum level for which flood insurance is no longer required, an important project benefit for many homeowners.

Response to Comment 14-48

The comment does not agree that public funds should be used to subsidize the costs incurred by persons who build and locate on the floodplain.

Refer to Response to Comment 14-14.

Response to Comment 14-49

The comment states that the discussion of herbicides is inadequate, and asserts that EPA approval of a chemical compound is not evidence of its safety.

The EIR/EIS authors disagree. EPA approval is based on a volume of scientific evidence that supports the safety of herbicides when applied properly. It is appropriate for the District to rely on the EPA to evaluate the safety of commercially-available herbicides. The comment offers no scientific evidence that herbicides used by the District are not safe.

Response to Comment 14-50

The comment asks what herbicides would be used as part of the maintenance program

Master Response C provides a list of herbicides used by the District.

Response to Comment 14-51

The comment asks what carcinogenic effect the herbicides have on human and animals.

This comment is the same as Comment 14-30. Refer to Response to Comment 14-30.

Response to Comment 14-52

The comment asks what mutagenic effect the herbicides have on human and animals.

This comment is the same as Comment 14-31. Refer to Response to Comment 14-31.

Response to Comment 14-53

The comment asks how the herbicides affect pituitary glands of humans and animals.

This comment is the same as Comment 14-32. Refer to Response to Comment 14-32.

Response to Comment 14-54

The comment asks how the herbicides affect internal organs of humans and animals.

This comment is the same as Comment 14-33. Refer to Response to Comment 14-33.

Response to Comment 14-55

The comment asks what toxic effects the herbicides have on humans and animals.

This comment is the same as Comment 14-34. Refer to Response to Comment 14-34.

Response to Comment 14-56

The comment asks what studies have shown regarding persistence of the herbicides in stream benthos.

This comment is the same as Comment 14-35. Refer to Response to Comment 14-35.

Response to Comments 14-57 and 14-58

These comments ask why the Draft EIR/EIS did not contain a discussion of the San Jose Riparian Corridor Policy and state that a discussion should be included.

The purpose of the Riparian Corridor Policy Study is "to explore in detail issues related to General Plan policies which promote the preservation of riparian corridors, … and how these corridors should be treated for consistency with the General Plan." The study identifies each riparian corridor within the City, discusses the importance of riparian corridors, and how they should be protected. The General Plan provides the policy foundation for the City's treatment of riparian corridors and is intended to incorporate the major findings of the study. The policy study attempts to achieve a balance among competing land uses along the City's riparian corridors (e.g., land development, flood control protection, habitat preservation) through the application of development guidelines, which are intended to be used within the context of the City's overall goals. The consultant team that prepared the Riparian Corridor Policy Study for the City of San Jose (The Habitat Restoration Group and Jones and Stokes Associates) also prepared the biological resources sections of the Upper Guadalupe River Flood Control Project EIR/EIS for the Santa Clara Valley Water District.

The Riparian Corridor Policy Study contains an analysis of existing General Plan policies relevant to riparian corridors and the resources they contain. The study also recommends two policies for addition to the General Plan:

"1. The City of San Jose should endeavor to preserve, protect and restore riparian corridors within the City's jurisdiction for the protection of vegetation, wildlife and aquatic habitat values.

2. The City should adopt specific Riparian Corridor Development Design Guidelines with the goal that new development and other related activities within and adjacent to the corridors does not adversely impact biotic resource values of the corridor."

The Study contains a riparian corridor inventory and development guidelines. The guidelines have been developed for a broad spectrum of land uses including flood control activities. Guideline 6F, Flood Control Channel Maintenance, states the following:

> "Vegetation removal in improved and/or constructed flood control channels should be in accordance with an approved operations and management plan (sometimes referred to as a management and monitoring manual) for the flood control project area."

Appendix C of the Upper Guadalupe River Flood Control Project EIR/EIS contains a detailed maintenance program for the flood control project, and there is a maintenance program and an EIR on that program currently being developed by the SCVWD. Mitigation recommended in the EIR/EIS would result in the filling of many existing gaps in riparian forest which would be replaced on a 2:1 basis for each acre affected by the flood control project.

Guideline 7C, Flood Control, states that

> "Where gabions, flood walls, and other armoring materials and techniques are necessary for flood protection, planting pockets and terraces should be created as an integral part of the structures. Native vegetation should be established and maintained in the planting pockets and terraces.
>
> Bypass channels or culverts are the preferred methods to improve flood flows and channel capacity. Bypass channels/culverts should be designed to preserve riparian areas on both sides of the existing channel. Diversion of natural water flows into pipe

> systems for any purpose should not be allowed to damage or degrade the natural channel or native plant or animal species.
>
> Where channels are not feasible, flood control projects may consider designs that widen channel areas, preferably on one side only, and create terraced benches for riparian plant establishment where sufficient land is available for this type of project. While these channel modifications will require the removal of substantial quantities of earth, and revegetation of terraces using locally-native riparian plant species, as much natural vegetation as possible should be preserved.
>
> Maintenance roads should be incorporated along existing levees wherever possible combining maintenance for flood control with maintenance for utilities and/or park management. Wherever possible, underground utilities should occur in disturbed areas including levees constructed for flood control."

The proposed project would be consistent with policies contained in Guideline 7C.

The following change is made to update the Draft EIR/EIS:

Page 4.5-6. The text under the heading, City of San Jose General Plan Policies, has been updated as follows:

> The Horizon 2000 General Plan (1994) seeks to balance the need to protect the community from the risk of flood damage (which is the primary goal for Flood Policies) with the protection of the City's remaining riparian corridors. Among San Jose's six flooding-related policies, one in particular is applicable: "New development should be designed to provide protection from potential impacts of flooding during the 'one percent' or '100-year' flood."
>
> At the same time, the City seeks to protect riparian resources. The ~~goal of the General Plan's Marine Life and Wildlife Resources section is to: "Preserve areas of special marine and wildlife habitation, particularly those containing endangered species, as living research and recreational resources, and as indispensable parts of the total environment."~~
>
> ~~Policy 5 states that: "Significant creeks and natural riparian corridors within the Urban Service Area should be preserved whenever possible. When disturbances cannot be avoided, appropriate measures should be required to restore, or compensate for damage to the creeks or riparian corridors."~~City Council has approved a Riparian Corridor Policy Study which includes an inventory of riparian resources within the Urban Service Area and Urban Reserves, assessments of riparian value, development guidelines, and riparian restoration policies. The City's goal for riparian corridors and upland wetlands is "to preserve, protect, and restore riparian corridors and upland wetlands within the City of San Jose's Sphere of Influence." Specific policies relevant to this project are listed below:
>
> 1. Creeks and natural riparian corridors and upland wetlands should be preserved whenever possible.

2. New public and private development adjacent to riparian corridors should be consistent with the provisions of the Riparian Corridor Policy Study.

5. When disturbances to riparian corridors and upland wetlands cannot be avoided, appropriate measures should be required to restore, or compensate for damage to, the creeks or riparian corridors.

6. The City encourages appropriate native plant restoration projects along riparian corridors, upland wetlands, and in adjacent upland areas.

7. The City should consider the preparation of a Riparian Restoration Action Plan to assess riparian conditions and identify potential riparian restoration programs and priorities.

Response to Comment 14-59

The comment asks if operation of the project would generate any temporary jobs at the District.

This is not likely. Much of the work would be done by contractors.

Response to Comment 14-60

The comment asks if operation of the project would ensure the continuation of any present jobs at the District.

Refer to Response to Comment 14-59.

Response to Comment 14-61

The comment asks what the contribution to the Gross Domestic Product would be if a one percent flood occurs and the No Project Alternative is implemented.

The contribution would be minimal compared to the $280 million flood damages to the community.

Response to Comment 14-62

The comment asks if the $280 million in damages incurred by the one percent flood a loss or a gain to the local economy.

The $280 million flood damages would be a loss to the local economy.

Response to Comment 14-63

The comment asks how erection of fences and barricades would limit public access to the proposed trail system.

The proposed trail system would be available for public use via established access points. Fencing along the bypass channel and other sections of the channel may be necessary in some areas to protect public safety. The City of San Jose should coordinate with the District in designing the trail system to establish appropriate access locations .

Response to Comment 14-64

The comment asks how erection of fences and barricades would limit public access to the navigable waters.

The river corridor would be available for navigation via established access points. Fencing along the bypass channel and other sections of the channel would be necessary to protect public health and safety.

Response to Comment 14-65

The comment asks what method was used to conduct the tree inventory.

The following change is made to the Draft EIR/EIS:

Page 4.12-2. Insert the following at the end of the first (partial) paragraph:

> … proximity to proposed construction. Trees were identified and counted visually in walking surveys. Tree diameters were measured, where possible, and estimated visually where they were not easily accessible. The surveyors did not map tree locations; therefore, changes in impacts to specific number of trees, resulting from subsequent project design changes, were estimated conservatively.

Response to Comment 14-66

The comment questioned why the lack of riparian habitat along Ross and Canoas Creeks was a reason for not conducting systematic surveys when the these creeks have high wildlife use.

The intent of the systematic wildlife surveys was to determine the value of riparian wildlife habitat in the project area. This does not mean that Ross and Canoas Creeks do not have high wildlife value or use. Reconnaissance-level surveys were conducted of these areas. Habitat values and typical wildlife species occurring on Ross and Canoas Creeks are discussed on page 4.13-12 of the Draft EIR/EIS.

Response to Comment 14-67

The comment asked if the long-term results of the Stream Restoration Alternative would be likely to reestablish habitat for the California red-legged frog, foothill yellow-legged frog, or southwestern pond turtle.

While there is existing potential red-legged frog habitat in the Guadalupe River, no individuals were observed in the project area during surveys in 1997. Even though California red-legged frogs have recently been recorded 8.5 miles upstream in the watershed and foothill yellow-legged frogs probably occur in small streams farther up in the watershed, it is unlikely that these species would occur in the project area because of the presence of numerous bullfrogs (a predator and competitor), non-native predatory fish, and other predatory animals (e.g., striped skunks, opossums, raccoons, herons, and dogs). The presence of water pollution and storm runoff, and the close proximity of urban development to the river reduces habitat quality for these frogs. The Stream Restoration Alternative would not likely improve these conditions. Even if these frog species were reintroduced by humans to the project area, it is unlikely that the Stream Restoration Alternative would benefit these species in the short- or long-term.

As stated in Response to Comment 13-41, pond turtles have been detected in the Guadalupe River and some of its tributaries. It is possible that implementation of the Stream Restoration Alternative would improve habitat conditions for pond turtles, but most of the conditions that have reduced the habitat value for pond turtles and affected turtle populations in the area, would remain.

Response to Comment 14-68

The comment asked if the long-term results of the Stream Restoration Alternative would be likely to reestablish habitat for other special-status wildlife species which are not currently present.

The Stream restoration Alternative would be more likely to benefit special-status wildlife species that are now present in the project area, such as the yellow warbler. The conditions described in Response to Comment 14-67 would still be present for other special-status wildlife species. The close proximity to urban development would still reduce the value for most special-status wildlife species.

Response to Comment 14-69

The comment asks whether or not coho salmon presently use the Guadalupe River for spawning.

There have been anecdotal reports of coho salmon sightings by the public; however, their presence has not been confirmed. Please refer to Response to Comment 13-44 for an additional discussion related to this matter.

Response to Comment 14-70

The comment asks whether there are any listed fish species other than steelhead in the Guadalupe River.

No, there presently are no other listed fish species besides steelhead occurring in the Guadalupe River system. The Draft EIR/EIS discussion has been updated to reflect the current status of listed species in the Guadalupe River and the current review of chinook salmon by the National Marine Fisheries Service. See also Response to Comment 2-5.

Response to Comment 14-71

The comments asks whether the statement referring to water temperatures exceeding 70°F is for shaded or unshaded reaches.

The statement in the Draft EIR/EIS regarding summer water temperatures exceeding 70°F is based on measured water temperatures from the mid-1980's which are reported in Table F-A.3 in the Technical Appendices of the Draft EIR/EIS. These data show that temperatures can exceed 70°F during summer throughout the Guadalupe River, from Trimble Road (downstream of Downtown San Jose) to the District's drop structure upstream of Blossom Hill Road.

Response to Comment 14-72

The comment asks what the effects of a drought would have on fish populations that J.O. Snyder observed during 1895.

The answer to this question is beyond the scope of the Draft EIR/EIS.

Response to Comment 14-73

The comment asks what is the importance of straying in breeding dispersal.

The answer to this question is beyond the scope of the Draft EIR/EIS.

Response to Comment 14-74

The comment asks what is the importance of straying in range expansion.

The answer to this question is beyond the scope of the Draft EIR/EIS.

Response to Comment 14-75

The comment asks what is the importance of straying in minimizing the impacts of stochastic events.

The answer to this question is beyond the scope of the Draft EIR/EIS.

Response to Comment 14-76

The comment asks what significance would a genetically unique population have in the long-term survival of the species.

The answer to this question is beyond the scope of the Draft EIR/EIS.

Response to Comment 14-77

The comment asks what would be the legal significance if a remnant population of genetically unique chinook salmon were found in the Guadalupe River system.

Should the National Marine Fisheries Service elect to propose chinook salmon for listing, they will probably include Guadalupe River chinook salmon in an Evolutionarily Significant Unit (ESU), as they did for steelhead. NMFS would then have one year to decide whether listing as threatened or endangered was warranted for that particular ESU. Presently, no state or federal agency places any special status on fall-run chinook salmon in California.

Response to Comment 14-78

The comment asks whether DFG would consider a genetically unique population of chinook salmon to be an endemic population that must be perpetuated and restored.

The EIR/EIS authors cannot speak for the California Department of Fish and Game. As presented in Response to Comment 2-5 and 10-40, the Draft EIR/EIS assumes in the impact analysis that chinook salmon are reproducing in the Guadalupe River and has proposed appropriate protective and mitigation measures to ensure the continued viability of the species in the system.

Response to Comment 14-79

The comment asks what is the position of the National Marine Fisheries Service in regards to chinook salmon and steelhead in the Guadalupe River.

The Central California Coast steelhead evolutionarily significant unit (ESU) has been listed as threatened by the NMFS under the federal Endangered Species Act (ESA) (62 FR 159; August 18, 1997). The Central California Coast steelhead ESU includes river basins from the Russian River system (Sonoma County), California to Aptos Creek (Santa Cruz County)(inclusive), and the drainages of the San Francisco and San Pablo Bays (62 FR 159; August 18, 1997). Chinook salmon that occur in the Guadalupe River drainage are considered by the NMFS to be part of the Southern Oregon and California Coastal ESU (Gilroy pers. comm.) and possibly the California Central Valley fall/late-fall-run ESU (63 FR 11481; March 9, 1998). Both of these chinook salmon ESUs have been proposed for listing as threatened (63 FR 11481; March 9, 1998). The Draft EIR/EIS has been revised to reflect the current status of steelhead and chinook salmon. See also Response to Comment 2-5.

Response to Comment 14-80

The comment asks what is the position of the United States Fish and Wildlife Service in regards to chinook salmon and steelhead in the Guadalupe River.

Please refer to Response to Comment 14-79.

Response to Comment 14-81

The comment questions whether the District is already legally obligated to remove fish barriers and therefore should not be proposing their removal as mitigation for the Upper Guadalupe River FCP.

Refer to Response to Comment 10-32.

Response to Comment 14-82

The comment questions the appropriateness of providing a public subsidy to mitigate floodplain conditions for those that choose to locate there and that this subsidy can become a benefit only when it includes elimination of flooding and restoration of riparian ecosystems.

The comment urges that the Stream Restoration Alternative be identified as the Preferred Project.

See Master Response A and Response to Comment 14-14.

Response to Comment 14-83

The comment expresses concern about effects of herbicides and about project impacts on salmonids.

Effects of herbicides are discussed in Master Response C. Glyphosate is the active ingredient in Roundup and Rodeo, and has been shown to be environmentally safe when used according to label directions. Glyphosate breaks down rapidly into carbon, nitrogen, and oxygen and does not bioaccummulate.

On Pages 4.14-28 and 4.14-29 of the Draft EIR/EIS, the potential for construction-related impacts on chinook salmon and steelhead were discussed. Potential construction-related impacts such as sedimentation, erosion, accidental spills of hazardous materials, and disturbance to migrating fish were discussed in detail and were found to be less than significant because the District or it's contractor would have to implement a Storm Water Pollution and Prevention Plan and follow requirements prescribed in the DFG streambed alteration permit that will govern construction-related activities during project construction. In addition, the District will limit in-channel construction to the April 15 to October 15 period, when chinook salmon and steelhead are less likely to be in this portion of the river. By implementing these measures, the District avoids or minimizes, to the maximum extent feasible, impacts on fish, including chinook salmon and steelhead, through the combination of avoiding or minimizing the impact and limiting construction to periods when sensitive life stages, such as spawning, are not occurring.

Response to Comment 14-84

The comment requests that mitigation (e.g., barrier removal and revegetation) occur before construction of the project commences.

The proposed construction schedule includes the restoration of Reaches 10B and 12 at the time that construction on the bypass in Reaches 6-8 commences. By doing so, the District will provide the bulk of the mitigation prior to constructing the reaches that are anticipated to suffer the greatest amount of losses of streamside vegetation (e.g., Reaches 9 and 10A). With regard to barrier removal, refer to Responses to Comments 2-25 and 2-40.

Response to Comment 14-85

The comment states that there is room for improvement in the Final EIR.

This Final EIR/EIS was prepared in response to these and other comments received from the public, organizations, and regulatory agencies. The EIR/EIS has been modified as appropriate to provide the additional information and clarification requested in comments.

Response to Comment 14-86 to 14-88

The comment asks how the average annual damages $20.6 million and total damages $280 million are calculated.

The $280 million estimate is based on the damage which could occur to homes and businesses during a one percent flood event. The average annual damage is based on the summation of all the floods which could occur (i.e., 20-year, 50-year, etc.) with their associated damages and probability of exceedance.

Response to Comment 14-89

The comment asks for identification of the reference Santa Clara Valley Water District 1997, which the comment states is missing from Chapter 11.

Santa Clara Valley Water District 1997 refers to the Guadalupe River Watershed Planning Study Engineer's Report. This is the first reference listed in Chapter 11 of the Draft EIR/EIS, under the heading Document Prepared as Part of This Project.

COMMENT LETTER 15 - BOBBIE PAUL (APRIL 15, 1997)

Response to Comment 15-1

The comment expresses opposition to developing a park at the area between Branham Lane and Capitol Expressway.

The proposed project does not have park features. The Draft EIR/EIS stated that the City of San Jose could develop a park and trail system in the vicinity. The City would have to conduct a separate environmental study to implement the park and trail system.

Response to Comment 15-2

The comment requests that channel widening on both banks be the preferred alternative.

The channel widening on both banks alternative was presented in the Draft EIR/EIS, but was rejected because it is more environmentally damaging than the preferred alternative, which is channel widening on one bank. During the design phase of this project, impacts to adjacent properties including pools and fences will be addressed with the residents.

Response to Comment 15-3

The comment requests that channel widening on the west bank be the Preferred Project.

Channel widening on the west bank requires encroachment into Almaden Expressway in order to provide the one percent flow capacity. In addition, impacts to the west bank would require more mitigation because more riparian vegetation is established on the west bank than the east bank. To construct a retaining wall as suggested would cost an additional $2 million.

Response to Comment 15-4

The comment states that construction of the Preferred Project will disrupt the neighborhood.

A variety of alternatives that would best satisfy all the objectives of the District and community were analyzed. Each alternative is assessed for its effectiveness in addressing problems and its impacts.

Response to Comment 15-5

The comment asks if natural vegetation on the neighborhood side would reduce the noise pollution from the traffic on Almaden Expressway.

Generally, vegetative screening is not an effective sound barrier. The EIR/EIS authors would like to clarify that natural vegetation on the west bank will remain undisturbed and in addition, more riparian vegetation is proposed to be planted.

Response to Comment 15-6

The comment asks if tree roots will provide protection to their homes adjacent to the creek.

Tree roots will provide some bank erosion protection to homes adjacent to the creek, to a point. Often during floods trees will be undercut and will pull the bank into the river. The Preferred Project will be constructed such that the homes will continued to be protected.

COMMENT LETTER 16 - CANOAS GARDEN NEIGHBORHOOD ASSOCIATION, DAVID F. BOUTCHER (APRIL 18, 1997)

Response to Comment 16-1

The comment states that maintenance is a big factor in solving flood problems.

The EIR/EIS authors agree, and a proposed maintenance program was included in the Draft EIR/EIS as an integral part of the project. The proposed project will also provide continuous access to most of the problem areas, which currently is lacking along the Guadalupe River.

Response to Comment 16-2

The comment requests that the proposed project solve the back flow problems in the Canoas Creek neighborhood.

During the design phase of this project, the District will work with City of San Jose and the residents in the neighborhood to address the storm sewer backflow problems.

COMMENT LETTER 17 - SIERRA CLUB, LOMA PRIETA CHAPTER, JULIA BOTT (APRIL 18, 1997)

Response to Comment 17-1

The comment requests full consideration of the Stream Restoration Alternative.

See Master Response A.

Response to Comment 17-2

The comment requests that the project implement methods to reduce runoff, such as removing impervious surfaces. The comment recommends that the District work with the City of San Jose to enact other planning regulations which would reduce or detain runoff.

The District has been working with the City in addressing runoff generated from the developments in the county. Development within a watershed is required to mitigate for impacts it has on the watershed and to avoid flooding upstream or downstream of the development.

Response to Comment 17-3

The comment states that the MVI Alternative should be implemented if it is found that the Stream Restoration Alternative and/or reduction of runoff is found not to be feasible.

See Master Response B.

Response to Comment 17-4

The comment addresses the long construction period and asks what process exists for revising the project as conditions change over time.

The District, as indicated in Chapter 3 (page 3-43) of the Draft EIR/EIS, has committed to assess the applicability of the EIR/EIS over the course of the construction to ensure that no significant changes to the impacts identified in the Draft EIR/EIS have occurred.

Response to Comment 17-5

The comment states that the success of the mitigation plantings will be partially dependent upon adequate available water, especially during the first few years after planting.

Irrigation of mitigation plantings is proposed. See the mitigation and monitoring plan (Volume VIII).

Response to Comment 17-6

The comment recommends a program to eradicate invasive exotic weeds in the entire riparian corridor.

This comment is addressed in the mitigation and monitoring plan (Volume VIII).

Response to Comment 17-7

The comment requests that the removal of fish barriers be implemented immediately.

Refer to Response to Comment 2-11.

Response to Comment 17-8

The comment requests that flow releases should be included in the mitigation package for fisheries impacts.

The EIR/EIS authors disagree.

The Upper Guadalupe River FCP will affect the terrestrial and aquatic habitats from project implementation. The project will not affect the existing flow regime, such as reducing peak flows, that is typical of flood control projects; rather, it will increase the conveyance of those flood flows through modifications to the existing channel. Because the project will affect physical habitat features, the District is proposing to replace lost habitat features through revegetation and restoration of stream reaches. Issues related to instream flows are being evaluated in response to a water rights complaint filed with the State Water Resources Control Board.

Response to Comment 17-9

The comment suggests providing cool water releases, such as groundwater releases, as interim mitigation for thermal impacts associated with SRA cover removal.

See Master Response H.

COMMENT LETTER 18 - ARCADIA DEVELOPMENT CO., ELI REINHARD (APRIL 17, 1997)

Response to Comment 18-1

The comment requests that alternatives be explored including locating the ponds on vacant property to the north.

The District has evaluated this suggestion and has revised the proposed plan to maximize usage of the vacant land to the north.

Response to Comment 18-2

The comment states that Arcadia Development has applied for rezoning and has terminated agricultural use of their land and requests that Arcadia Development's opposition to use of the property for the flood control project be reflected in the EIR/EIS.

All public comments and the responses to those comments will become part of the Final EIR/EIS and will be considered by the Board of the Water District in making a final decision about proceeding with the project. The changed use of the referenced property will be reflected in revision to the text of the Draft EIR/EIS.

The following change is made to the Draft EIR/EIS:

The second paragraph on page 4.5-6 has been changed as follows:

> The land bordering the northwestern edge of the reach is principally commercial, with minor industrial/commercial uses. The central two thirds of the western side of the reach are zoned for agriculture ~~and are in production.~~ but are designated General Commercial in the City of San Jose General Plan for that area south of Chynoweth Avenue, and Very High Density Residential (25-40 DU/AC) for the area north of Chynoweth Avenue. Agricultural use of ~~T~~this area, which ~~is actively used to grow row crops such as beans, tomatoes, strawberries and corn,~~ extends from the River to the Almaden Expressway, was terminated in December 1996. The City received an application for Planned Development zoning on this property (APN 458-17-06, 17, 18 and 458-16-32) in February 1996. The proposed project would include up to 350,000 square feet of Retail Commercial uses and 504 multi-attached units. An EIR is being prepared on the proposed project. State Route 85, south of this proposed project, has been constructed~~which occupies a 200 foot right-of-way, is under construction and crosses the reach via a 1,600 foot long bridge~~. Continuing south along the west side, Sanchez Drive stretches along the River beyond the commercial activity that fronts on Blossom Hill Road and the length of the percolation ponds beyond it. There are a number of townhouses and condominiums that were recently completed or are under construction beside Sanchez Drive.

COMMENT LETTER 19 - MILLER STARR & REGALIA, JANINE C. OGANDO (APRIL 18, 1997)

Response to Comment 19-1

The comment states that the EIR/EIS relies on the Engineer's Report for a description of hydrologic information, and does not summarize the information in the environmental document.

The hydrologic information from the Engineer's Report is summarized in Section 4.2 of the Draft EIR/EIS, Surface and Groundwater Hydrology. Existing hydrologic characteristics, with particular reference to flood conditions, are described on pages 4.2-1 through 4.2-5. Pages 4.2-5 through 4.2-7 describe the one percent flood and factors affecting flooding. Design criteria for the project are presented on pages 4.2-7 and 4.2-8. The hydrologic effects of the project are presented on pages 4.2-10 and 4.2-11. As noted there the effects would be beneficial, and "would allow the one percent flood in the Guadalupe River and Ross Creek to be contained in the channel throughout San Jose." Those readers desiring more detailed presentation of hydrologic characteristics were appropriately referred to the Engineer's Report, which is available for review at the Santa Clara Valley Water District Office.

Response to Comment 19-2

The comment requests that any potential for increased flood impacts north of the project be fully discussed and mitigated.

The proposed project would not increase flooding nor increase the velocity of flow or increase the rate of sedimentation downstream of the project. The completion of this project, in conjunction with the downtown project, will eliminate the mandatory flood insurance required by FEMA.

COMMENT LETTER 20 - SEQUOIA MANAGEMENT CO., RUTH GOLDSTEIN (APRIL 15, 1997)

Response to Comment 20-1

The comment references the Corps' public notice for the upper Guadalupe River Project and requests a listing of the locations that will experience reduced visual quality with the project.

Table 4.15-2 in the Draft EIR/EIS lists the locations that will experience reduced visual quality with the project.

Response to Comment 20-2

The comment asks for information on the locations of ramp and maintenance road in Reach 9.

Ramps are proposed at 1,000 feet and 200 feet downstream of Malone Road Bridge. The maintenance road will be located on the proposed depressed bench, approximately 10 feet below Almaden Road.

Response to Comments 20-3 and 20-4

The comment asks what type of fence and barrier are proposed at the top of bank along Almaden Road. The comment requests that if fencing is used, visual impact of the fence be mitigated by the use of landscaping.

The proposal is to construct a concrete barrier with 42-inch high black vinyl-coated fence along Almaden Road. The choice of using black vinyl-coated fence was to reduce visual impacts to the neighborhood. During the design phase, the District will coordinate with City of San Jose and the residents in the neighborhood to discuss the design of the barrier and fence.

Response to Comment 20-5

The comment asks if there are plans to screen the existing water pumping station with landscaping in Reach 9.

The existing water pumping station is owned by the San Jose Water Company and the project does not propose to screen the station. During the design phase of the project, the District will meet and discuss the screening proposal with the San Jose Water Company and the residents in the neighborhood.

COMMENT LETTER 21 - RUTH AND GOING, INC., GERRY DE YOUNG (APRIL 17, 1997)

Response to Comment 21-1

The comment states that the land use for the central two-thirds of the western side of Reach 12 is misrepresented in the EIR/EIS.

The comment is correct in stating that land use in the area is changing and the General Plan designation of the area between the Almaden Expressway and the River, south and north of Chynoweth Avenue is designated General Commercial and High Density Residential, respectively, in the City of San Jose General Plan. Refer to Response to Comment 18-2.

Response to Comment 21-2

The comment states that acquisition by the SCVWD of 4.7 acres north of the future extension of Chynoweth Avenue would result in a reduction of future housing stock in the City , and that the EIR/EIS must analyze these impacts.

The City of San Jose's General Plan policies encourage the development of high density in-fill housing, particularly in close proximity to light rail transit. City policies also encourage native plant restoration projects along riparian corridors and in adjacent upland areas, and support efforts to encourage and reclaim water supplies. According to information provided by the City Planning Department, the City has received an application for a residential development of 400 homes north of the future Chynoweth Avenue extension. The application also includes a large retail commercial component. The residential component of the proposed project would be affected by proposed mitigation plans in Reach 12A of the Upper Guadalupe River Flood Control Project. A draft environmental impact report has been prepared on the project and is in circulation.

The SCVWD and the land owner are in negotiations over the purchase of the parcel proposed for residential development. While it is true that the General Plan designation for the parcel is Very High Density Residential, and there are General Plan policies encouraging development near light rail, zoning for the parcel is Agriculture. The flood control project is consistent with other General Plan policies encouraging native plant restoration, which SCVWD has proposed for a portion of this parcel. The project is also consistent with efforts to encourage water supplies, which is the purpose of the proposed percolation pond on the parcel.

Response to Comment 21-3

The comment quotes a portion of the description of the Minimize Vegetation Impacts (MVI) Alternative and states that the EIR/EIS does not provide adequate analysis of the option of continuing to use existing seasonal dams.

The comment is incorrect, and it appears that the commenter does not realize that the text quoted in the comment is part of the description of the MVI Alternative, not the Preferred Project. As described on page 3-40 of the Draft EIR/EIS, the Preferred Project leaves the existing in-stream gravel dams in place. The entire evaluation of the Preferred Project assumes that the in-stream seasonal dams remain in place. Abandonment of the in-stream seasonal dams is only part of the MVI Alternative. The MVI Alternative includes construction of additional bypass channels, and additional percolation ponds to mitigate for loss of the in-stream capability.

Response to Comment 21-4

The comment states that the EIR/EIS should evaluate the cost of continuing to use in-stream percolation ponds as compared to the cost of acquiring land and constructing new off-stream ponds.

The Draft EIR/EIS does include this cost comparison, which is presented in Table 3.1 on page 3-4. The Preferred Alternative, which retains the in-stream percolation ponds, has an estimated cost of $14.4 million in Reach 12. The MVI Alternative, which would remove the in-stream ponds and replace them with off-stream ponds, has an estimated cost of $31.7 million in Reach 12. The off-stream ponds do not provide a flood-control function, but it is necessary to replace the in-stream ponds if they are removed by construction of a bypass channel as part of the MVI Alternative.

COMMENT LETTER 22 - WILLOW GLEN NEIGHBORHOOD ASSOCIATION, LAWRENCE LOWELL AMES (APRIL 18, 1997)

Response to Comment 22-1

The comment expresses appreciation of the proposed project and requests that the project create an open space environment and enhance the environmental quality of the region.

Refer to Response to Comment 15-4

Response to Comment 22-2

The comment requests that new bridges not preclude eventual construction of recreational trails along the river and support bike lanes.

The proposed project was designed in coordination with the City's Park and Recreation Department such that future implementation of the park and trail master plan for 6 miles from Alamitos Creek to downtown San Jose would be feasible. Most of the proposed ramps unto the continuous maintenance road conform to American's with Disabilities Act (ADA) standards.

Response to Comment 22-3

The comment requests that the District to work with the City and County to construct a multi-use recreational trail.

Refer to Response to Comment 22-2.

Response to Comment 22-4

The comment requests that the District's properties to be properly maintained to avoid negative impacts to the neighboring community.

The District appreciates the concern, and District staff have been working with the community to address neighborhood concerns about the District's properties.

COMMENT LETTER 23 - THE ATRIUM, KATHIE CLARK (APRIL 18, 1997)

Response to Comment 23-1

The comment asks if views of the Guadalupe River downstream of Blossom Hill Road would be adversely affected.

The project proposes to improve the views and riparian corridor along the river by planting riparian habitat on both banks of the river. The construction is anticipated to take two years to complete.

Response to Comment 23-2

The comment asks when construction of trails will be completed in Reach 12.

Construction in Reach 12 could begin as early as Year 2000 and trail construction by others could begin after the work is complete.

Response to Comment 23-3

The comment asks what kinds of recreation will be available in Reach 12.

The City has plans to construct recreational trails on the District maintenance roads.

Response to Comment 23-4

The comment asks if bikes will be allowed on the trails, and expresses concerns about safety of walkers.

If the City allows biking on the trails, the City will address the pedestrian safety issues.

Response to Comment 23-5

The comment asks if accommodations are made for the physically challenged elderly.

The proposed maintenance roads and ramps were designed in coordination with the City's Park and Recreation Department so that future implementation of the park and trail master plan would be feasible. Most of the proposed ramps onto the continuous maintenance roads conform to ADA standards.

Responses to Comments 23-6 to 23-10

The comment asks about the locations of access gates for the public, access hours, lighting, increase of traffic, and overnight camping.

Before the City constructs the trails, the public would have opportunities to provide input to the City regarding access gates, access hours, lights, increase of traffic and other issues of concern in the neighborhood.

Response to Comment 23-11

The comment asks if this project will increase the chances of flooding in Reach 12 due to decreasing flooding in the downtown area.

The proposed project will provide flood protection up to 100-year flood flow to all the areas within the upper Guadalupe River floodplain downstream of Blossom Hill Road.

COMMENT LETTER 24 - FRIENDS OF THE GUADALUPE, THE SILICON VALLEY CHAPTER OF URBAN CREEKS COUNCIL, DONNA BERNARDI (APRIL 18, 1997)

Response to Comment 24-1

The comment asks if the Stream Restoration Alternative would cause less sediment deposition. The comment asks how many times the Guadalupe River has had a one percent flood. The comment expresses confusion regarding the figures of 5,200 acres and 2,200 acres for flooded areas stated in the Draft EIR/EIS.

Refer to Responses to Comments 10-25, 10-26 and 14-4.

Response to Comment 24-2

The comment expresses disagreement that bank erosion and sediment deposition are caused by flooding.

Refer to Response to Comment 14-3.

Response to Comment 24-3

The comment asks the volume of water at one percent flood on the Guadalupe River and the mean depth.

Refer to Responses to Comments 14-5 and 14-6.

Response to Comment 24-4

The comment asks how many one percent floods there have been on the Guadalupe River.

Refer to Response to Comment 10-26.

Response to Comment 24-5

The comment asks why the District is proposing to start construction of a project for which there is no funding to complete the project.

Refer to Response to Comment 14-13.

Response to Comment 24-6

The comment states the project is not acceptable as it will benefit a small segment of society by subsidizing the cost of building and locating within a floodplain, and spreading that cost to all of society.

Refer to Response to Comment 14-14.

Response to Comment 24-7

The comment states that Table 2.1 has omitted the State Land Commission and National Marine Fisheries Service.

Refer to Responses to Comments 2-12 and 10-29. The State Lands Commission will make a determination of consistency with the public trust doctrine. The State Lands Commission received a copy of the Public Notice and had no comment, as documented in Comment Letter 112 from the Department of Water Resources.

Response to Comment 24-8

The comment states that the Stream Restoration Alternative is the superior alternative and that this alternative was not adequately addressed.

See Master Response A.

Response to Comment 24-9

The comment states that the Stream Restoration Alternative would be less expensive over time and would create a functioning river system that would favor natural processes to occur while restoring and maintaining habitat for fish and wildlife.

See Master Response A.

Response to Comment 24-10

The comment states the belief that the Preferred Project will not work, referring to the Downtown Project as an example. The comment advocates the Stream Restoration Alternative.

Refer to Response to Comment 13-2 and Master Response A.

Response to Comment 24-11

The comment states that the Stream Restoration Alternative is the only alternative that can satisfy all the stated policies and goals of the Santa Clara County and City of San Jose General Plans to protect and restore waterways and riparian habitats while providing for flood protection and reducing maintenance costs and satisfy the goals of the Santa Clara Basin Watershed Management Initiative.

See Master Response A.

Response to Comment 24-12

The comment states that the Draft EIR/EIS is heavily weighted towards the Preferred Project.

The Preferred Project, MVI Alternative, and No Project Alternative are considered in equal level of detail. It must be noted that only impacts of the MVI Alternative that are different from the Preferred Project are discussed in detail to avoid repetition. Each alternative is an alternative that could be selected based on the information contained in the Draft EIR/EIS.

Response to Comment 24-13

The comment requests that the EIR/EIS stipulate that prior to initiation of construction, the Integrated Vegetation Mitigation Plan (Mitigation Measure V-1), the Vegetation Protection Plan for Riparian and Urban Forests (Mitigation Measure V-2), and the Guadalupe Fisheries Management Plan must be completed and approved by RWQCB, DFG, USFWS, and NMFS.

The mitigation and monitoring plan (Volume VIII) is included in the Final EIR/EIS for review and comment by cooperating agencies prior to initiation of construction. The Vegetation Protection Plan for Riparian and Urban Forests would be prepared prior to initiation of construction in each reach and provided to cooperating agencies for review and comment. The Guadalupe Fisheries Management Plan is presently under preparation by the District; refer to Response to Comment 10-33 for further information.

Response to Comment 24-14

The comment states that under section 5901 of the California Fish and Game Code, the District is legally obligated to remove all barriers to fish passage and that therefore, this cannot be considered mitigation for the proposed project. The comment also states that mitigation measure Cf-1 is already part of the Downtown project mitigation and cannot be used for this project.

Refer to Response to Comment 10-32 and Master Response F.

Response to Comment 24-15

The comment states that the cumulative impact analysis is deficient because the mitigation measures for the Downtown Guadalupe River Flood Control Project are being reevaluated.

The most recent set of mitigation measures for the Downtown Guadalupe River Flood Control Project are incorporated into the cumulative impact analysis. See Master Responses F, H, and L and Response to Comment 10-35.

Response to Comment 24-16

The comment asks whether the Stream Restoration Alternative would fully mitigate for cumulative impacts on SRA cover.

Implementation of a Stream Restoration Alternative would result in significantly greater losses of SRA cover initially because of the extensive channel work that would be required to restore the channel's plan, profile, and geometry. This is contrary to regulatory guidance to avoid impacts first. Assuming that the Stream Restoration Alternative would result in fewer constraints on planting streamside vegetation compared to the Preferred Project, there is the potential that more planting could occur on the banks under the Stream Restoration Alternative. The plantings would require many years of growth to begin accumulating SRA value. Additional SRA cover may be needed under the Stream Restoration Alternative to offset the additional impacts that are anticipated from construction of this alternative. The impact analysis for the Preferred Project has demonstrated that all impacts on SRA cover can and will be adequately mitigated. See also Master Response A.

Response to Comment 24-17

The comment asks if there would be less SRA habitat lost if the width, length, and number of maintenance roads and ramps was downsized.

Maintenance access is an integral element to making the project function properly. Almost all the maintenance roads are located on existing dirt maintenance roads (e.g. Reaches A, 8, 9, and 12), on open floodways adjacent to the river (e.g. Reaches 6-9, 10A, 10C, 11A, and 11C), or on existing or proposed levees (e.g. Reaches A and 6). The floodways are necessary to provide for flood carrying capacity and in many cases allow for vegetation adjacent to the river. No maintenance roads directly cause the loss of riparian or SRA habitat, except the west bank maintenance road in Reach 12 that results in the loss of less than 0.1 acres of riparian habitat. Some potential for riparian revegetation is lost in Reaches 7 and 11B due to a maintenance road.

If the number of ramps was reduced, there could be a reduction in the loss of SRA habitat depending on which ramps were deleted (e.g., Reaches A-A, 6, 7B, 8, 9, 10C, and 11B). Some potential for riparian or SRA habitat revegetation is lost in Reaches A-B, A-C, 7A, and 11B.

Response to Comment 24-18

The comment asks if the District would be willing to downsize maintenance roads to preserve vegetation.

Refer to Responses to Comments 10-18 and 10-19.

Response to Comment 24-19

The comment asks if the District would be willing to take ramps out of the plan to save SRA and other habitat.

Refer to Responses to Comments 10-18 and 10-19.

Response to Comment 24-20

The comment asks whether the District will permanently remove the fish barriers and at what point in the project will the barriers be removed.

Refer to Responses to Comments 2-25 and 2-40.

Response to Comment 24-21

The comments asks whether salmonids will be in the river during the construction period.

Yes, there is the potential that salmonids will be in the river during the construction period. For more discussion related to this topic, please refer to Response to Comment 14-26.

Response to Comment 24-22

The comment asks what active ingredients are in herbicides that would be used as part of the maintenance program.

Table C.1 in Master Response C provides a list of herbicides used by the District. Active ingredients are included in the table.

Response to Comment 24-23

The comment asks what carcinogenic effect the herbicides have on human and animals.

This comment is the same as Comment 14-30. Refer to Response to Comment 14-30.

Response to Comment 24-24

The comment asks what mutagenic effect the herbicides have on human and animals.

This comment is the same as Comment 14-31. Refer to Response to Comment 14-31.

Response to Comment 24-25

The comment asks how the herbicides affect pituitary glands of humans and animals.

This comment is the same as Comment 14-32. Refer to Response to Comment 14-32.

Response to Comment 24-26

The comment asks how the herbicides affect internal organs of humans and animals.

This comment is the same as Comment 14-33. Refer to Response to Comment 14-33.

Response to Comment 24-27

The comment asks what studies have shown regarding persistence of the herbicides in stream benthos.

This comment is the same as Comment 14-35. Refer to Response to Comment 14-35.

Response to Comment 24-28

The comment asks how erection of fences and barricades would affect public access to navigable waters.

Refer to Response to Comment 14-64.

Response to Comment 24-29

The comment asks what is the importance of straying in breeding dispersal.

The answer to this question is beyond the scope of the Draft EIR/EIS.

Response to Comment 24-30

The comment asks what is the importance of straying in minimizing the impacts of stochastic events for species in decline.

The answer to this question is beyond the scope of the Draft EIR/EIS.

Response to Comment 24-31

The comment asks what the legal significance would be if there was a remnant of an undocumented population of chinook salmon in the Guadalupe River.

The EIR/EIS authors cannot speak for the National Marine Fisheries Service. The commenter is directed to Response to Comment 14-79 for additional discussions on chinook salmon.

Response to Comment 24-32

The comment states they oppose the Preferred Project and that more attention needs to be given towards the Stream Restoration Alternative.

See Master Response A.

COMMENT LETTER 25 - SILICHIP CHINOOK, SALMON AND STEELHEAD RESTORATION GROUP, ROGER CASTILLO (APRIL 18, 1997

Response to Comment 25-1

The comment requests the removal of all dangerous debris in the channel and around its banks.

Refer to Responses to Comments 13-10 and 13-73 through 13-75. The District is proposing to remove rubble from the Guadalupe River and its banks in selected locations. The District does need to ensure that bank removal of rubble does not promote bank erosion and would like to minimize the loss of additional SRA habitat at rubble removal sites.

The following change is made to the Draft EIR/EIS:

Page 3-50. The third paragraph under the heading "Benefits of the Project" has been modified as follows:

> In addition, vortex rock weirs would be constructed in Reaches 9, 10, and 11. These weirs would provide in-stream cover and deepen the feeding areas for fish habitat in the riffle reach of the channel. The weirs act as a grade control structure without upstream lateral migration, bank erosion, and aggradation. They also maintain the low width-to-depth ratio that would reduce the likelihood of bar deposition and maintain the sediment transport capacity of the stream. The project would remove approximately 5,605 linear feet, and 116,800 square feet, of rubble in the construction area. Approximately 3,040 linear feet (0.6 bank miles; 66,700 square feet) would become natural bank (see Table 5.4a in Chapter 5, "Cumulative Impacts").

Response to Comment 25-2

The comment states that an in-channel maintenance road would be highly destructive to the environment and would lead to an increase in herbicide spraying within the channel.

See Master Response C and Response to Comment 24-17.

Response to Comment 25-3

The comment requests a cost estimate of the maintenance being performed for Contract 1 and 2 and for restoration of gravel, dredging, and raising of levees.

The comment refers to the Downtown Guadalupe River Project. The commenter is referred to the Corps of Engineers for information.

Response to Comment 25-4

The comment claims that the primary reason for lack of vegetation and shade cover in the Guadalupe River now is due to actions and policies of the District.

Refer to Response to Comment 13-35.

Response to Comment 25-5

The comment states that no consideration is given to chinook salmon, steelhead, and other animals that use the Guadalupe River system.

The EIR/EIS authors disagree. Much consideration is given to chinook salmon and steelhead in the impact analysis and appropriate protective and mitigative measures are proposed to ensure the continued viability of these species in the Guadalupe River system. In the long-term, the project will result in more favorable habitat for anadromous fish and other animals. See Master Responses H and K.

Response to Comments 25-6 and 25-7

The comment states the belief that the Preferred Project will not work referring to the Downtown Project as an example. The comment advocates the Stream Restoration Alternative using Rosgen's method.

Refer to Response to Comment 13-2 and Master Response A.

COMMENT LETTER 26 - CALIFORNIA NATIVE PLANT SOCIETY, SANTA CLARA VALLEY CHAPTER, GLENN ROGERS (APRIL 17, 1997)

Response to Comment 26-1

The comment requests that the Minimize Vegetation Impacts Alternative be the Preferred Project.

See Master Response B.

Response to Comment 26-2

The comment requests a mitigation ratio of 2:1 instead of 1:1 for urban forest since a no net loss mitigation compensation is uncommon.

A 1:1 replacement ratio for urban forest was selected because the success rate for urban forest is expected to be very high and the mitigation monitoring program will ensure that there is no net loss. See the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS) for additional information.

Response to Comment 26-3

The comment suggests that an increase in stream flow during winter may be needed to improve the success rate of willow and other riparian plantings higher up on the river bank.

Mitigation plantings of willows will primarily be confined to the near stream areas. Other riparian plantings will be selected to best match the planting location in relation to the river and irrigation provided to ensure establishment. Additional information on the methods to be employed to ensure planting success are discussed in the mitigation and monitoring plan (Volume VIII).

Response to Comment 26-4

The comment suggests removal of exotics along the river to enhance habitat value for wildlife.

To the extent feasible, The District will remove non-native species during project construction and replace with native species. The District will continue to monitor the river for occurrence of exotics and develop procedures to keep them under control.

Response to Comment 26-5

The comment requests that the proposed project provides for recreational opportunities for trails.

Refer to Response to Comment 22-2.

COMMENT LETTER 27 - GEORGE G. HOWE (MARCH 12, 1997)

Response to Comment 27-1

The comment asks if the proposed project would result in modifications to the floodplain maps.

The proposed project would provide flood protection up to the one percent flood probability to the properties within the upper Guadalupe River floodplain, therefore eliminating the mandatory flood insurance required by FEMA.

The District appreciates the compliment on the overall project proposal as it relates to the environment and quality of life.

COMMENT LETTER 28 - VERNON DALE TRIPP (APRIL 14, 1997)

Response to Comment 28-1

The comment asks why a bypass channel was preferred over channel widening.

The bypass channel was preferred because it would avoid impacts to the existing channel and would restore and maintain the existing aquatic ecosystem by providing a buffer between the natural channel and adjacent development.

Response to Comment 28-2

The comment asks the capacity of the bypass channel and whether it has capacity to carry high flows experienced in previous years.

At a 100-year flood flow of 14,600 cfs, the bypass channel will carry 9,600 cfs and the remaining 5,000 cfs will flow through the natural channel. The bypass channel will be able to carry the flood flows experienced in previous years.

Response to Comment 28-3

The comment asks if the proposed bypass channel will replace the existing channel.

The bypass channel will perform as a secondary channel to the existing channel and will operate during high flows. All low flows will continue in the existing channel. The existing channel will not be filled in.

COMMENT LETTER 29 - SANTA CLARA VALLEY AUDUBON SOCIETY, CRAIG K. BREON (APRIL 18, 1997)

Response to Comment 29-1

The comment requests that the District coordinate with the Corps and DFG regarding the viability of the Stream Restoration Alternative.

The District did coordinate with both the Corps and DFG prior to release of the Draft EIR/EIS. Additional coordination has also occurred. See Master Response A.

Response to Comment 29-2

The comment requests that the MVI Alternative be referred to as the "Environmentally Superior Alternative."

For consistency and to avoid confusion, each alternative continues to have the same title. Identification of the environmentally superior alternative is an independent determination that is provided to the Board for their consideration.

Response to Comment 29-3

The comment states that there is not adequate rationale for rejection of the Stream Restoration Alternative.

See Master Response A.

Response to Comment 29-4

The comment requests that an earth bypass channel in Reaches 10A, 10C, 11A and 12 be the Preferred Project.

See Master Response B.

Response to Comment 29-5

The comment requests inclusion of several portions of the Minimize Vegetation Impacts alternative in the Preferred Project.

See Master Response B.

Response to Comment 29-6

The comment asks if a non-structural alternative is feasible in Reach 11.

Removing all homes in the floodplain would be costly in Reach 11. A modified plan for removing homes could be the Minimize Vegetation Impacts Alternative, which removes some homes and excavates an overflow channel.

Response to Comment 29-7

The comment expresses uncertainty about whether the project can be constructed in a 10-year period.

With the assumptions of no federal funding and continuation of benefit assessment at the current rate beyond year 2000, the completion of the proposed project is anticipated to take 25 years. However, if additional funding is available, the construction could be expedited.

Response to Comment 29-8

The comment asks about the funding strategy for the proposed project.

Refer to Responses to Comments 14-13 and 2-6.

Response to Comment 29-9

The comment asks how the project will be funded under different funding conditions.

Refer to Response to Comment 2-6.

Response to Comment 29-10

The comment asks when the barrier removal at Stream Gage 23b would occur and asks if the fisheries mitigation would be more successful if barriers were removed at or even before the project begins.

Stream Gage 23B has already been modified by the District to provide fish passage. Under the project, Stream Gage 23B will be moved to the downstream end of Reach 10B and constructed at the channel invert elevation. This is expected to occur in the first years of construction, when Reach 10B is constructed. Refer to Response to Comment 2-11.

Response to Comment 29-11

The comment states that the EIR/EIS will become legally stale before completion of the project and requests a schedule for reevaluation of the project and mitigation performance.

Refer to Response to Comment 3-20.

Response to Comment 29-12

The comment asks why the removal of the Alamitos drop structure is included as a project cost.

The requirement to remove the fish barrier is part of a legal settlement, but such a project still must satisfy the requirements of the District Act and CEQA, which is why it is included in this report. Refer to Master Response F and Response to Comment 2-11.

Response to Comment 29-13

The comment asks whether anadromous fish can successfully migrate through Almaden Lake to reach upstream habitats.

Once fish passage is provided at the Alamitos drop structure, anadromous fish will have access to habitats on the tributary streams. While it is true that these fish will have to negotiate Almaden Lake to reach Alamitos Creek, fish passage is not expected to be precluded because of the presence of the lake. Almaden Lake is a relatively small lake (approximately 50 acres) and only 2,000 linear feet separate the outlet of the lake from the inlet (i.e., the mouth of Alamitos Creek). Furthermore, these species are good swimmers (e.g., they traverse the San Francisco Bay on their journey from the ocean to the mouth of the Guadalupe River) and they have a strong urge to swim upstream. Anadromous fish on the Columbia River are known to traverse long reservoirs (e.g., 50 miles long) on their journey to upstream habitats.

Response to Comment 29-14

The comment recommends appending the USFWS report regarding habitat conditions on the tributary streams.

See Master Response J.

Response to Comments 29-15 and 29-16

The comment asks for clarification of the planting schedule in Reaches 10B and 12.

Revegetation in any reach will begin during the first fall planting season following reach construction. Should construction be completed during the fall, as many revegetation tasks as possible will begin at that time. Reach 10B and Reach 12 are expected to be the first reaches constructed.

The following change is made to the Draft EIR/EIS:

Page 4.12-31. Revise the second paragraph to read:

> This measure is expected to provide a net long-term increase in habitat quality along the Guadalupe River, because it would replace with native species all of the riparian forest removed during construction (much of which is dominated by non-native and weedy plants) and would also reduce the fragmentation of the riparian forest by approximately ~~38~~ 43 percent. In addition, the project would be constructed in phases, not all at once; therefore, impacts on riparian forest and other important habitats would also occur incrementally and locally, not simultaneously throughout the project area. Additionally, mitigation plantings would outpace impacts on riparian and wetland habitats early in the project. Reaches 10B, 6, and 12, which together contain ~~33~~ 52 percent of ~~all proposed~~ the riparian forest mitigation, but less than 4 percent of the project-wide riparian forest impact, would be ~~among~~ the first reaches constructed. Reach 12 also contains ~~75~~ 100 percent of the proposed wetland mitigation acreage.

acreage. Therefore, the lag time between loss of habitat value and full compensation would be minimized.

> To further minimize the lag time, a replacement ratio of 2:1 is proposed for riparian forest. A Habitat Evaluation Procedures (HEP) Conference with participating resource agencies (DFG, USFWS, and Corps) was conducted in January 1993. The purpose of this meeting was to review the District's terrestrial riparian HEP for the project. The HEP recommended a 0.8:1 mitigation ratio. The USFWS, in the Draft Coordination Act Report (USFWS 1993) recommended a 2:1 ratio be used to compensate for the loss of riparian habitat. This mitigation ratio has been used in this EIR/EIS and is the basis for the mitigation plan outlined in the biotic resources analyses. The USFWS Final Coordination Act Report (August 1998) identified only slightly greater riparian impact numbers than the Draft EIR/EIS, because of the slope-corrected method employed by USFWS. ~~and r~~Revegetation will begin as soon as possible in each reach (i.e., during ~~in~~ the first fall planting season after ~~reach~~ construction in each reach). Should construction be completed during the fall, as many revegetation tasks as possible will begin at that time. ~~A 2:1 replacement ratio was recommended by the habitat evaluation procedures (HEP) team and the USFWS in its Coordination Act Report (U.S. Fish and Wildlife Service 1993).~~

Page 4.12-35. The final paragraph is modified as follows:

> The proposed construction phasing (Table 3.5, Chapter 3 of this EIR/EIS) has been designed to allow for mitigation planting in Reaches 10B and 12 and construction of flood control facilities in Reach A and Reach 6 as the first phase of the project. The major portion of riparian vegetation impacts would result from construction of flood control facilities in the middle reaches, which would be phased between ~~1999 and 2017~~2001 and 2019. This phasing would allow time for mitigation planting to become established and for habitat to become available in Reaches 10B and 12 prior to construction impacts occurring in other reaches of the Upper Guadalupe River Corridor.

Response to Comment 29-17

The comment asks whether the mitigation proposed will be adhered to over time.

The proposed mitigation and monitoring plan will be submitted to the U.S. Army Corps of Engineers as part of the 404 permit application. Upon issuance of the Corps permit, the District will perform work based on the terms and conditions stated in the permit.

Response to Comment 29-18

The comment asks whether the project's mitigation would have greater likelihood of success if the District is willing to provide increased instream flows to the Guadalupe River.

The mitigation and monitoring plan is designed without artificial release of water so that the riparian vegetation would be conducive to the cessation of surface flows during summer months, which is common in a Central California riparian system. Once established, through supplemental irrigation if necessary, it is expected that riparian forest vegetation will be able to tap into shallow subsurface flows to survive through normal summer draught conditions.

Response to Comment 29-19

The comment asks if mitigation plantings could occur sooner to allow earlier determination of revegetation success.

Riparian, wetland, and other mitigation plantings are already scheduled to occur as early as practicable following construction in each segment of the project. Refer to Responses to Comments 29-15 and 29-16.

Response to Comment 29-20

The comment requests that the District consider removal of non-native and invasive species from the project area.

Refer to Response to Comment 26-4.

Response to Comment 29-21

The comment questions the use of ruderal scrub sites for riparian mitigation and recommends a mitigation ratio for ruderal scrub of greater than 1:1.

Ruderal scrub habitat was considered less sensitive and generally of less value than riparian forest because ruderal scrub often represents former forest that has been disturbed or cleared. The impact is considered less than significant in the Draft EIR/EIS because most of the ruderal scrub is non-native and it is locally and regionally common. Therefore, no mitigation for lost ruderal scrub is proposed. Some ruderal scrub sites that are currently sparse, disturbed, or contain substantial amounts of non-native vegetation have been proposed for restoration to riparian forest to enhance the habitat of the river corridor (especially Reaches 10B, 11A, and 12). Much of this ruderal scrub occurs along the bank of the river.

Response to Comment 29-22

The comment requests that the EIR/EIS include a comparison of maintenance cost estimates for each of the alternative projects.

The EIR/EIS authors concur and a maintenance cost comparison table is included in Master Response D.

Response to Comment 29-23

The comment claims that the annual maintenance cost estimates for the proposed project are unrealistic, referring to the Downtown Project as an example.

Refer to Responses to Comments 10-4, 13-2 and 13-20.

Response to Comment 29-24

The comment states the belief that the costs of the proposed project were driven up when the City of San Jose rezoned certain parcels to higher density.

The law requires that the District acquire properties needed for the project at their highest and best use. Therefore, rezoning does not impact the value of the land that will be acquired by the District.

COMMENT LETTER 30 - LIBBY LUCAS (APRIL 18, 1997)

Response to Comment 30-1

The comment claims that the Volume III Appendices were not available to the public and therefore, requests for a continuance of the review period for the proposed project.

The EIR/EIS authors regret that the commenter experienced inconvenience in obtaining a copy of the Volume III Appendices of the report. Volume III was available for public review at all of the libraries in San Jose. A copy was sent to the commenter. The CEQA and NEPA requirements for public review have been met, and there are no plans to extend the comment period.

Response to Comment 30-2

The comment requests that Reach A and 13 be addressed in the Draft EIR/EIS as well as soils and engineering data.

Reach A and 13 are addressed in full in the Draft EIR/EIS and soils impacts are addressed in Chapter 4.1. More detailed engineering information is included in the Engineer's Report (February 1997).

Response to Comment 30-3

The comment requests a copy of Volume III in order to review the HEP analysis.

The HEP analysis is summarized in the Draft EIR/EIS on page 4.12-31 (see also Responses to Comments 29-15 and 29-16) and page 4.13-2. Volume III has been provided to the commenter.

Response to Comment 30-4

The comment notes that wetland impacts are not depicted on the maps in Volume II and asks that the linear extent of impacts be determined.

The wetland impacts of this project cannot be shown clearly on the Plates in Volume II; however, wetland impacts are mapped and measured (linear and aerial extent) clearly in larger-scale maps included in the Draft EIR/EIS at the end of Volume II.

The following change is made to the Draft EIR/EIS:

Page 4.12-17. Add the following after the second paragraph of the "Jurisdictional Waters of the United States" section:

> The linear and aerial extent of delineated wetlands were mapped in detail by District staff on large-scale maps included in Volume II, and impacts were identified by overlaying the construction drawings.

Response to Comment 30-5

The comment requests that Reach 13 be included in the Engineer's Report.

The EIR/EIS authors agree and the Engineer's Report has been revised.

Page 3-124. A new paragraph has been added at the end of the page.

> Possible staging area for the construction equipment would be within the proposed right of way of the mitigation area. Access to the construction area would be at Branham Lane, Chynoweth Avenue, and Blossom Hill Road.
>
> *Reach 13: Upstream of Blossom Hill Road*
>
> In this reach, a step-pool ladder at the 15-foot Alamitos drop structure will be constructed per a court settlement agreement.

Response to Comment 30-6

The comment states that the Guadalupe River has been seriously impacted by the piecemealing of projects for flood control, transportation, and development.

The cumulative impacts section (Chapter 5 of the EIR/EIS) addresses major projects that have occurred or are proposed to be implemented on the Guadalupe River.

Response to Comment 30-7

The comment requests that the proposed project incorporate a full watershed evaluation and integrated management plan.

Flood control alternatives, environmental setting and mitigation measures within the watershed beyond the study area were part of this project. Each alternative was assessed for its effectiveness in addressing problems and its impacts on riparian vegetation, wetland, wildlife habitat, fisheries, water quality, water supply, local drainage, aesthetic, and recreation. The proposed plan would best satisfy all of the objectives of the District and community on a watershed basis.

Response to Comments 30-8 and 30-9

The comment claims that this study is deficient and doubts the workability of the proposed project, referring to the Downtown Project as an example.

The EIR/EIS authors disagree. The project impacts have been evaluated and appropriate mitigation measures identified. Refer to Response to Comment 13-2.

Response to Comment 30-10

The comment requests that remediation work on old Almaden Quicksilver Mines be referenced in the EIR/EIS.

The proposed project will not impact the old Almaden Quicksilver Mines, and remediation for the mines is beyond the scope of this EIR/EIS.

Response to Comment 30-11

The comment asserts that Alamitos and Guadalupe Creeks are sources of thermal pollution.

See Master Response H and J.

Response to Comment 30-12

The comment requests that data on toxic materials that adhere to sediment at the confluence of Alamitos and Guadalupe Creeks be presented and evaluated.

The proposed project will not impact sediment at the confluence of Alamitos and Guadalupe Creeks and therefore, no additional studies are needed. Refer to Response to Comment 5-17.

Response to Comment 30-13

The comment expresses concern that vegetation removal will exacerbate sedimentation issues in the Guadalupe River and that Guadalupe Creek contains algae that is host to a parasite.

The Draft EIR/EIS incorporates measures to prevent soil erosion and sedimentation of aquatic habitats. Revegetation will occur in affected reaches following construction and will further reduce the potential for soil erosion. The EIR/EIS authors cannot comment on the parasite found in Guadalupe Creek because no mention is made as to the species that was found, nor whether it is a naturally occurring parasite or an introduced species. However, unless it is unique to the particular site where it was found, this parasite is probably found throughout the watershed, or at a minimum, in reaches downstream of where it was found on Guadalupe Creek.

Response to Comments 30-14 and 30-15

The comment requests that volume and management of imported water to the Guadalupe River be studied.

The volume, rate, and distribution of imported water would have insignificant impacts on the one percent flood flows.

Response to Comment 30-16

The comment suggests that global warming could cause the San Francisco Bay to rise by the year 2022 and that this could affect the flood control project.

The specific effects of global warming are not known at this time and it would be speculative to address its affect on the flood control project.

Response to Comment 30-17

The comment requests in depth review of all the previously mentioned concerns because the loss of wetlands and riparian habitat are considered to be too severe to retain the biotic integrity of the river.

The EIR/EIS quantifies the impacts on the habitats and species described in the letter, evaluates the potential for significant impacts on the those resources, and recommends appropriate protective and mitigation measures to ensure the continued viability of those species that depend on the river. Refer to Responses to Comments 30-1 through 30-16.

Response to Comment 30-18

The comment expresses disagreement with the calculation of the area of wetland to be created off-site to mitigate for wetland loss on Ross Creek.

Refer to Response to Comment 30-4.

Response to Comment 30-19

The comment requests that upstream retention and offstream retention be evaluated.

Offstream and upstream retention were investigated and were found infeasible and impracticable. Please refer to Chapter 3.2 of the EIR/EIS for a discussion of alternatives eliminated from further study.

Response to Comment 30-20

The comment expresses the belief that the orchard will help in flood flow backup in the Canoas Creek area.

The orchard will not help in flood flow backup at Canoas Creek. The Canoas Creek flooding problems are primarily due to insufficient channel capacity.

Response to Comment 30-21

The comment states that maintenance roads affect biodiversity, and that herbicide spraying is unpopular and in conflict with good watershed management.

The District is required to maintain its flood control facilities, and maintenance requires access to the channel. Locating maintenance roads away from the flood control channel would defeat the purpose of having the roads. The District uses herbicides as one part of their overall integrated vegetation management plan. Use of herbicides is consistent with performing necessary maintenance in an environmentally sensitive and fiscally responsible manner.

Response To Comment 30-22

This comment requests habitat preservation for salmon and steelhead and wildlife species, including the osprey, southwestern pond turtle and western pond turtle, and the red-legged frog.

These issues have been addressed in previous comments. As far as fish are concerned, the fisheries impact analysis does focus on impacts on chinook salmon and steelhead, and the appropriate protective and mitigation measures are proposed to ensure the continued viability of these species. For the pond turtle, please refer to Responses to Comments 13-41 and 14-67. For the California red-legged frog, please refer to Responses to Comments 5-11 and 14-16. For the osprey, please refer to Response to Comment 13-41.

Response to Comment 30-23

The comment expresses preference for the bypass channel concept only if the bankfull and sediment carrying flow remains in the natural channel.

See Master Response E.

COMMENT LETTER 31 - SOUTH BAY YACHT CLUB, RUSSELL Y. ROBINSON (APRIL 3, 1997)

Response to Comment 31-1

The comment commends the efforts on the part of the District and urges that the completion of the proposed project be accelerated.

The District appreciates the compliment and is working towards providing flood protection to the community as soon as possible.

COMMENT LETTER 32 - UNITED STATES DEPARTMENT OF THE INTERIOR, OFFICE OF THE SECRETARY, OFFICE OF ENVIRONMENTAL POLICY AND COMPLIANCE, PATRICIA SANDERSON PORT (MAY 27, 1997)

Response to Comment 32-1

The comment asks for evaluation of erosion potential at mitigation sites.

This comment is addressed in the mitigation and monitoring plan (Volume VIII).

Response to Comment 32-2

The comment asks for more detailed documentation of vegetation, discussion of differences between existing and mitigation vegetation, and additional mitigation for scrub-shrub vegetation.

The mitigation and monitoring plan addresses riparian planting site locations, differences between existing and mitigation riparian vegetation, and mitigation for shrub-scrub vegetation. See also the response to Comment 32-33.

The following changes are made to the Draft EIR/EIS:

Page 4.12-25. Revise the first paragraph under "**Impact V-1**" to read:

> *Riparian Forest.* Implementing the proposed project would result in direct removal of approximately ~~9.48~~ 10.45 acres of existing riparian forest by construction activities, such as grading and excavation (Tables 4.12-5 and 4.12-7). This acreage represents approximately 20 percent of the 47.48 acres of existing riparian forest mapped in Reach A and Reaches 6-13. Most of the vegetation to be removed under the Preferred Project would be on mid- to upper-banks. Removal of lower-bank vegetation (that which contributes most to SRA cover) would be avoided in many areas. At least half ...

Page 4.12-31. Revise the third bullet under "*Riparian Forest*" to read:

> Plant different habitat types within riparian forest mitigation areas to accommodate difference in site conditions (e.g., edge of water vs. top of bank, soil textures). ~~Recommended~~ Potential habitat types, bank position, and their dominant tree and shrub species, depending on site conditions, are:
>
> 1) Willow Riparian (arroyo willow, sandbar willow, mule fat)
>
> 2) Cottonwood/Willow Riparian (Fremont cottonwood, arroyo willow, sandbar willow~~, California wild rose, California blackberry~~)
>
> 3) Mixed Riparian (Fremont cottonwood, box elder, ~~western sycamore,~~ blue elderberry, California wild rose)

4) ~~Sycamore/Valley~~ Oak Riparian (~~western sycamore,~~ valley oak, coast live oak, California wild rose~~, California blackberry~~)

~~5) Oak Riparian (coast live oak, valley oak, California wild rose, California blackberry)~~

Response to Comment 32-3

The comment states that the long-term mitigation monitoring should be revised to ensure that habitat mitigation goals are met.

This comment is addressed in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 32-4

The comment states that performance criteria for SRA habitat should be incorporated into the mitigation plan.

This comment is addressed in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 32-5

The comment states that hydrologic criteria should be included in the mitigation plan.

This comment is addressed in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 32-6

The comment states that the mitigation plan should include specific remedial actions and timetables in the event of mitigation failure.

This comment is addressed in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 32-7

The comment requests quantification of existing bank hardening elements and full documentation of cumulative impacts.

Refer to Responses to Comments 13-73 through 13-75.

Response to Comment 32-8

The comment states that the cumulative impacts section should include an accurate accounting of existing bank hardening in the project area and the amount of bank that will be converted to hardbank due to the project.

Refer to Responses to Comments 10-6 and 13-73 through 13-75.

Response to Comment 32-9

The comment asks for additional information on mitigation planting composition and locations.

This comment is addressed in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 32-10

The comment asks for an updated reach-specific survey of vegetation.

Existing baseline information in the EIR/EIS, appendices, and other referenced documents adequately describe the extent and significance of impacts and do not need to be updated for the final EIR/EIS. The mitigation and monitoring plan (Volume VIII of the Final EIR/EIS) contains some additional information on existing vegetation.

Response to Comment 32-11

The comment states that corrections to quantification of riparian and SRA habitat are needed because of the differences in water levels between 1984 (when HRG's terrestrial cover-typing was done) and 1993 (when SRA habitat surveys were conducted).

The HRG terrestrial cover-typing was conducted in 1986, 1989, and 1990 and polygons of uniform habitat type were mapped by Jones & Stokes Associates on 1994 aerial photographs and field checked (see page 4.12-1 of the Draft EIR/EIS). Jones & Stokes Associates staff participated in the SRA habitat surveys in 1993. There is, therefore, no reason to correct the numbers due to differences in water level.

Response to Comment 32-12

The comment suggests that an evaluation be conducted of soil types, groundwater depths, and responses of groundwater to different water-year types for proposed mitigation areas to determine the long-term success of vegetation after irrigation ceases.

This comment is addressed in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 32-13

The comment states that riparian impacts, mitigation, and thermal impacts associated with the Downtown Project and the Upper Guadalupe River FCP need to considered together and that clarification is needed to distinguish mitigation areas between the two projects.

See Master Responses F, H, and L.

Response to Comment 32-14

The comment requests that the cultural resource specialist define the effects to sites listed or eligible for the National Register of Historic Places (NRHP). These eligibility statements must be coordinated with the SHPO, and mitigation measures must be identified in the FEIS.

The EIR/EIS authors concur.

The following changes are made to the Draft EIR/EIS:

Page 4.16-6. The following additions are to be placed after the third full paragraph as follows:

> **Preferred Project**
>
> The results of archaeological investigations by Archaeological Resource Management in 1998 indicate that there are cultural materials present within the impact zone at sites CA-SCL-635H, CA-SCL-636, and CA-SCL-706. Subsurface testing at each of the three sites within the impact area revealed subsurface disturbance of the cultural deposit, indicating that the integrity of each cultural resource has been compromised. Thus, sites CA-SCL-635H, CA-SCL-636, and CA-SCL-706 are not seen as potentially eligible for inclusion on the National Register. Site CA-SCL-690 will not be impacted by the Project. The area of the Project nearest CA-SCL-690 does not appear to contain cultural resources, as auger testing, test trenching, and hand excavation produced no traces of prehistoric or significant historic cultural activity in this impact zone. In addition, the Project will not impact the location of previously reported cultural materials in Reach A (Cartier 1989). This area of Reach A has been heavily impacted by development (e.g., the construction of the Guadalupe riverbank and levee), and test trenching in the location of the previous isolated find revealed no traces of cultural materials. Due to the absence of native soils in Reach A near Guadalupe Parkway and Airport Boulevard based on the negative results of test trenching in this area, the reported isolated find (Cartier 1989) is not seen as potentially eligible for inclusion in the National Register of Historic Places.
>
> Research for the 53 structures within the Preferred Project of the Guadalupe River Flood Control Project was carried out in March and April 1998 by Archaeological Resource Management. This research was conducted in order to evaluate these resources for potential historical and architectural significance and to address their potential eligibility for the National Register of Historic Places. The research focused upon the characteristics of the structures and their architectural contribution to the historic fabric of their neighborhood. Based on the research and evaluation, the structures within the Preferred Project do not exhibit significant historical or architectural characteristics that would make them potentially eligible for inclusion in the National Register of Historic Places.
>
> However, there are three structures within Reach 6 that retain at least some marginal level of local architectural interest: 334 Grant Street, 717 Palm Street, and 960 McLellan. These structures were evaluated for local significance using the City

of San Jose historic evaluation criteria and were determined to be non-significant and non-contributing structures. There are many structures similar to these three at the City of San Jose Historical Museum and throughout the City of San Jose that are being restored or rehabilitated, however, and the architectural elements present on these structures are difficult to obtain.

Construction Impacts

Impact AH-1: Excavation within the Project Area Could Disrupt or Destroy Archaeological Resources. ~~Four reaches and a tributary in the Preferred Project are located in areas that may contain prehistoric cultural resources. These reaches include Reach A, Reach 6, Reach 7, and Reach 11.~~ The area of impact for the Guadalupe River Flood Control Project is in an alluvial valley with a widespread pattern of buried prehistoric deposits. Known sites in or adjacent to the project include CA-SCL-636, CA-SCL-690, CA-SCL-706, and the recently discovered Native American burials at the Valley View Packing Company property located just outside of the impact area for the project along Hillsdale Avenue. Both the Valley View Packing Company site and CA-SCL-690 are known to contain prehistoric human remains. In addition, it is possible that burials are contained within site CA-SCL-636, as this site is characterized by a well-defined midden deposit (i.e., the archaeological remains of a prehistoric habitation site). The well-known prehistoric resources in the Santa Clara Valley are often buried and are not recognized until subsurface construction unearths the remains. Previous construction excavation for flood control in other portions of the Guadalupe River outside the current project have unexpectedly unearthed human remains.

Several prehistoric resources may be affected by the Preferred Project Alternative. ~~Reach A may contain cultural resources potentially affected by the project based on prehistoric materials identified during a previous survey.~~ Reach 6 of the project alignment is adjacent to a prehistoric archaeological site at 770 McLellan Avenue, CA-SCL-706, that has been determined to have no potential significance based upon investigations by ARM in 1998~~, CA-SCL-706~~. The parameters and depth of this site ~~are not~~ have been determined, ~~but~~ and it is anticipated that, although unlikely, soil-moving activities within this area may encounter additional pockets of archaeological deposits. Reach 7 of the project alignment is outside of the periphery of a large occupation site with human burials, CA-SCL-690. Archaeological testing in the Preferred Project Alternative's impact zone near SCL-690 have determined that the site will not be impacted by the project. ~~A portion of SCL-690 is located approximately 600 feet east of the Guadalupe River, in near vicinity to Reach 7. This prehistoric site, SCL-690, has high archaeological significance.~~ In Reach 11, a prehistoric site is recorded 40 feet southeast of the existing bank of the Guadalupe River, CA-SCL-636. This cultural resource ~~may~~ will be affected by the proposed construction. This site, CA-SCL-636, was identified by the presence of fire-cracked rock, burned mammal bone fragments, and prehistoric stone tools. SCL-636 ~~may be potentially~~ will be affected by the Preferred Project Alternative from the widening of the east banks of the Guadalupe River in Reach 11 (Dennis Cheong, Upper Guadalupe River Flood Control Project engineer, personal communication).

Page 4.16-7. The first full paragraph is modified as follows:

> **Impact AH-2: Project Construction Would Result in Removal or Disturbance to Structures with Historical Significance.** There are five historic structures that have some architectural value that would be removed by the Preferred Alternative Project. Reach 10 contains one historic resource, CA-SCL-635H, a redwood retaining wall ~~of potential significance~~ in excess of 100 years in age. ~~In addition, the Valley View Packing Company historic complex in Reach 10 includes an abandoned prune dehydrator which dates to the early years of the company's operation. The prune dehydrator is an early prototype of a new hydrating process developed by the Rubino brothers in the late 1930s. Due to its association with the fruit processing industry in the Valley, it is a significant resource according to criterion "A" for the National Register. The Preferred Alternative may have an adverse impact on these resources.~~ Within Reach 6, three structures of minor architectural significance would be removed: 334 Grant Street, 717 Palm Street, and 960 McLellan Avenue. In Reach 9, the structure at 760 Malone Road would be removed by the project. This residence dates to the 1890s and has ~~some~~ minor architectural value.

Page 4.16-7. The second full paragraph is modified as follows:

> **Mitigation Measure AH-1: Monitor Construction Activities to Identify Archaeological Resources.** ~~To mitigate potential construction impacts, a qualified archaeologist should periodically monitor earthmoving construction activities to check soil conditions and to assess the presence of archaeological deposits in sensitive areas of the project. Archaeological monitoring of all soil moving construction activities near sites CA-SCL-636, -690, and -706 should be conducted due to the likely presence of prehistoric deposits. Due to a prehistoric site, SCL-4778, located east of Reach A and traces of prehistoric materials identified during a previous archaeological survey of this reach, monitoring is recommended for the southern half of Reach A from Sonora Avenue to Interstate 880. As described in the site record, "the extent of the prehistoric site SCL-706 is unknown." Monitoring should be conducted on the southern portion of Reach 6 , from south of West Virginia to Willow Street. Because of extensive human remains found at SCL-690, it would be recommended that monitoring should be conducted in the section from south of Capital Expressway to the south end of Wellington Square. Archaeological monitoring is also appropriate at SCL-635H (in addition to other mitigation measures) to document the depth and extent of this historic feature.~~
>
> Due to the general sensitivity of the overall project area, it is recommended that archaeological monitoring be carried out for earthmoving activities throughout the Project. Intensified archaeological monitoring is recommended in the area of sites CA-SCL-635H, CA-SCL-690, and CA-SCL-706.

In the event that archaeological materials or burials are discovered during monitoring, the following mitigation measures would be implemented.

Page 4.16-8. The fifth full paragraph is modified as follows:

> **Mitigation Measure AH-2: Preserve Historical Resources Where Possible; Document and Salvage Significant Elements Where Structural Demolition is Necessary.** Four structures within the project alignment have some architectural value. These structures are 334 Grant Street, ~~693 and~~ 717 Palm Street, 960 McLellan Avenue, and 760 Malone Road. These structures were evaluated for local significance using the City of San Jose historic evaluation criteria and were determined to be non-significant and non-contributing structures. It is recommended that prior to demolition of these four structures, the San Jose Historical Museum, Victorian Preservation Association, or other interested parties should be offered the opportunity to salvage architectural elements from these structures for use in the restoration of similar historic structures. In addition, photodocumentation of these structures should be carried out prior to demolition in order to record their visual characteristics.
>
> The historic cultural resource CA-SCL-635H located in Reach 10A will be impacted by construction for the Project. It is therefore recommended that archaeological monitoring of subsurface construction at the location of CA-SCL-635H be conducted by a qualified archaeologist. In addition, if the redwood retaining wall feature at SCL-635H is further exposed during construction activities, it is recommended that the feature be appropriately documented. Photography and other forms of recording may be carried out in the field to document the feature if it is exposed during construction.
>
> ~~Three cultural resources associated with the Valley View Packing Company on Hillsdale Avenue should be preserved, if possible (an industrial building, a residence, and an abandoned prune dehydrator). Minimal mitigation would include photographic and archival documentation, oral interviews with the Rubino family, and salvage of significant elements.~~ As part of the mitigation plan for the Valley View Packing Company on Hillsdale Avenue carried out by Archaeological Resource Management in 1998, the packing company, the Rubino residence, and the Rubino barbecue/recreation structure were documented using medium format photography in both color and black and white film. These structures were seen as ineligible for inclusion in the National Register of Historic Places by the Office of Historic Preservation; thus, photography following the guidelines of the Historic American Buildings Survey (HABS) was not necessary. In addition, a monograph detailing the history of the packing/canning industry in Santa Clara Valley and the role the Valley View Packing Company played in that industry was prepared. A videotape produced by the Rubinos documenting their family business was also obtained. These three items have been designed to mitigate impacts to the Valley View Packing Company historical site (site number P-43001122; a P number is assigned to historic structures rather than a trinomial designation, as these sites are not considered archaeological in nature). These records are to be curated at the City of San Jose Historical Museum.

Page 4.16-8. The following measures is added at the bottom of the page:

Mitigation Measure AH-1A: Produce a Hand-Excavated Sample of Site CA-SCL-636 in Order to Mitigate Impacts to the Resource. It is recommended that impacts to site CA-SCL-636 be appropriately mitigated through intensive monitoring, recovery excavation, and the development of a burial treatment program. Although the integrity of this prehistoric resource has been compromised by the intrusion of historic materials (and thus it is not seen as potentially eligible for the National Register of Historic Places), SCL-636 contains distinct pockets of prehistoric materials within its boundaries. In order to mitigate impacts to these prehistoric cultural materials, full-time archaeological monitoring is recommended for subsurface construction activities in the peripheral portion of the site (i.e., the northern third of SCL-636). A hand-unit excavation program is then recommended for the main prehistoric cultural deposit (i.e., the southern two-thirds of the site). This archaeological program should involve (a) a burial treatment plan in the case that human remains are encountered and (b) hand-unit excavation to recover samples of intact portions of the site to be impacted. The burial treatment program should follow Section 7050.5 of the California Health and Safety Code and Sections 5097.94 and 5097.98 of the Public Resources Code. These codes stipulate that upon the discovery of human remains, the site shall not be further disturbed, the coroner shall be contacted, and if the remains are found to be prehistoric in nature, the Native American Heritage Commission (NAHC) shall be contacted. The NAHC will then appoint a representative of the most likely descendants (MLD) of the human remains so that recommendations regarding their treatment may be made. In general, the archaeological program shall be designed to address the chronology, stratigraphic integrity, and function of this prehistoric cultural resource in a scientific, research-based excavation program.

Page 4.16-9. The text starting at the top of the page is revised as follows:

Minimize Vegetation Impacts Alternative

Research for the 115 structures within the Minimize Vegetation Impacts Alternative (MVIA) of the Guadalupe River Flood Control Project was carried out in March and April 1998 by Archaeological Resource Management. This research was conducted in order to evaluate these resources for potential historical and architectural significance and to address their potential eligibility for the National Register of Historic Places. The research focused upon the characteristics of the structures and their architectural contribution to the historic fabric of their neighborhood. Based on the research and evaluation, none of the 115 structures within the MVIA were listed on the National Register of Historic Places, and upon evaluation, none appear to be eligible for inclusion on the National Register. These homes date from circa the 1940s to the 1990s, and their overall condition was very good to excellent.

Construction Impacts

Under the Minimize Vegetation Impacts Alternative a bypass channel would be constructed in Reaches 9, 10A, 10C, 11A, and 12. The proposed ~~changes in the~~ Minimize Vegetation Impacts Alternative affects most of the prehistoric resources more than the Preferred Project Alternative.

The Minimize Vegetation Impacts Alternative would lessen impact upon the historic site CA-SCL-635H, located in Reach 10. ~~However, more structures would be affected as a result of the Minimize Vegetation Impacts Alternative. The structures proposed for removal within Reach 9 and on Curtner Avenue of Reach 10 were noted during the cursory visual evaluation as being constructed in the late 1940s to early 1950s. In Reach 10 on 892 El Rio Drive, one single family residence appeared to be from the 1920s. Also in Reach 10, 916 El Rio Drive was observed as being worthy of particular architectural evaluation. On Roy Avenue in Reach 10, the four structures appeared modern, from the 1980s to the 1990s. The structures affected by the Minimize Vegetation Impacts Alternative in Reach 11 on Thousand Oaks Drive and Wellington Square all appeared to be constructed in the 1980s and 1990s. These more modern structures lack architectural merit. However, the removal of these structures may greatly impact the prehistoric site CA-SCL-636.~~ Although the Minimize Vegetation Impacts Alternative would impact 115 structures within Reaches 9, 10A, and 11A, these structures have been evaluated as not potentially eligible for inclusion on the National Register of Historic Places. Potential impacts may occur to previously unknown subsurface historic or prehistoric resources in these areas as a result of demolition activities.

Mitigation Measures

The potential prehistoric archaeological effects of the Minimize Vegetation Impacts Alternative would be greater than the impact from the Preferred Project Alternative, except on the portion of the Guadalupe River designated Reach 11 in the near vicinity of SCL-636. The mitigation guidelines for the Minimize Vegetation Impacts Alternative would include a larger area to monitor. In Reach 11, the construction of the bypass channel and the removal of 33 structures may greatly affect SCL-636 due to the site boundaries ~~undefined~~ potentially extending below structures between Wellington Square, Thousand Oaks Drive, and the Guadalupe River. This may entail salvage recovery of the archaeological deposit.

~~Historic resource mitigations may be more extensive for the Minimize Vegetation Impacts Alternative due to removal of 115 structures in addition to those removed in Reaches 6-10 which are the same as described for the Preferred Project. In addition to salvaging the architectural elements from the five residential structures in the preferred alternative, other possible mitigation measures may be needed. If the Minimize Vegetation Impacts Alternative were selected, detailed historic evaluation of the structures would be required. Prior to removal of the structures in Reaches 9, 10, and 11, historic evaluations would need to be completed for each structure slated for demolition. The evaluation would be designed to comply with Section 106 of the~~

~~National Historic Preservation Act.~~ The structures in Reaches 9, 10A, and 11A do not meet the National Register criteria and therefore do not appear to be potentially eligible for placement on the National Register of Historic Places. There are no other homes in the vicinity listed on the National Register of Historic Places or listed as eligible for National Register status. Therefore, no further recommendations are warranted for the 115 structures within the Minimize Vegetation Impacts Alternative.

Response to Comment 32-15

The comment states that the following recommendations from the USFWS Coordination Act Report (April 1997) should be addressed in the EIR/EIS:

- *a) increasing the width of the floodway channel from Willow Glen Way to the Pine Island Bypass,*
- *b) constructing a box culvert bypass around Reach 9 and 10A under Almaden Road,*
- *c) increasing the width of the floodway channel on the east bank between Hillsdale Avenue and the Capitol Expressway,*
- *d) increasing the width of the floodway channel on the west bank from Chard Avenue to Ross Creek using one northbound lane of Almaden Expressway, to provide SRA plantings on the east bank,*
- *e) increasing the width of the floodway channel on the west bank from immediately upstream of Ross Creek to Branham Lane, and*
- *f) excavation of a widened west bank floodway in Reach A.*

Recommendation (a) is not possible because the undeveloped San Jose Water Company property is a fully-developed well site supplying water to homes in the area. Recommendation (b) is not possible because construction of a culvert that is sized to carry the one percent flow under Almaden Road would more than double the cost and create major traffic disruptions. Several wells would need to be replaced and a major sewer line relocated. Recommendation (d) is not possible because the median between northbound and southbound Almaden Expressway will be used to construct high occupancy vehicle lanes by the County. However, to address USFWS concerns regarding SRA plantings, the project will include a cribwall instead of gabions on the east bank, providing room for SRA plantings on the east bank. Recommendation (e) is not possible because there is an existing 2-story office building on the west bank. Recommendation (f) is not possible because the Airport Boulevard which services the San Jose International Airport will be widened by the City of San Jose.

Recommendation (c) is possible and the Draft EIR/EIS published in January 1997 had already incorporated this change.

Response to Comment 32-16

The comment indicates that the restoration of a low-flow channel in Reach 12 should be considered.

This may be considered by the District as a future project.

Response to Comment 32-17

The comment states that the proposed riprap sites (eight sites are listed) should be replaced with biotechnical features, such as those described in Appendix B of the Draft EIR/EIS and that their exclusion should be explained fully.

Refer to Responses to Comments 5-13 and 10-6.

Response to Comment 32-18

The comment states that minimization of ramps and roads should be considered, especially:

- *a) elimination of the east bank access ramp upstream of Alma Avenue,*
- *b) repositioning the east bank access ramp upstream of Willow Glen Way to allow access beneath the bridge and reduce vegetation impacts, and*
- *c) elimination of at least one of the three ramps within 400 feet of Malone Road.*

The elimination of the east bank access ramp upstream of Alma Avenue is feasible and will be incorporated into the project. Refer to Responses to Comments 10-18 and 10-19 for a discussion of (b) and (c) above.

The following change is made to the Draft EIR/EIS:

Page 3-36. The third full paragraph on the page is modified as follows:

> Maintenance ramps would be constructed periodically along the east bank of the proposed bypass channel for access to the maintenance road on the channel bottom. An access road would also run along the bottom of the proposed bypass channel between the SPRR and Willow Street. Access to the Guadalupe River would be from ramps at Willow Street and downstream of Alma Avenue.

Response to Comment 32-19

The comment recommends modification of the "boulder biotechnical" erosion repair, especially in Reaches 7-9, to minimize bank and bottom hardening.

Refer to Responses to Comments 5-13 and 10-6.

Response to Comment 32-20

The comment recommends use of natural materials and partial cross-channel grade stabilizers.

Refer to Responses to Comments 5-13 and 10-6.

Response to Comment 32-21

The comment recommends supplementing lower-quality, non-native riparian scrub with native riparian plantings.

This comment is addressed in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 32-22

The comment references page 7 of the Executive Summary and indicates that "revegetation" should not be included in the list of flood protection modifications.

The EIR/EIS authors agree.

The following change is made to the Draft EIR/EIS:

Page ES-7. Starting with the third sentence, the first paragraph is modified as follows:

> In Reaches 9 through 10A, Willow Glen Way to Southbound Almaden Expressway, flood protection facilities would include channel widening, bypass channels, and bank stabilization~~, and revegetation~~. In reaches 10B to 12, Southbound Almaden Expressway to Blossom Hill Road, flood protection modifications would include channel widening, bank stabilization, ~~revegetation,~~ and levees....

Response to Comment 32-23

The comment indicates that Table 1 of the Executive Summary, "Summary of Proposed Flood Control Facilities" should include bank protection for Reaches 7-9 and bypass for Reach 9.

The comment is correct.

The following change is made to the Draft EIR/EIS:

Table 1 on page ES-8 of the Executive Summary, and Table 1.1 on page 1-5, the entries for Reaches 7, 8, and 9 are revised as follows:

TABLE 1.1

UPPER GUADALUPE RIVER
SUMMARY OF PROPOSED FLOOD CONTROL FACILITIES

		Main Flood Control Facility Proposed	
Reach	Limits	Preferred Project	Minimize Vegetation Impacts Alternative
A	Bayshore to I-880	Levees, floodwalls, and maintenance roads	Same as the Preferred Project
6	I-280 to SPRR	Gabion bypass channel	Same as the Preferred Project
7	SPRR to UPRR	Gabion bypass channel, bank protection	Same as the Preferred Project
8	UPRR to Willow Glen Way	Gabion bypass channel, bank protection	Same as the Preferred Project

9	Willow Glen Way to Curtner Avenue	Selective widening and cribwall lining, bank protection and short bypasses	Earth bypass channel west of the natural channel

Response to Comment 32-24

The comment references Figure 8 of the Executive Summary and the typical section for Reach 10A and indicates an inconsistency between this typical section and the typical section in the Plate Volume. The Plate Volume shows willow riparian on the east bank, while Figure 8 shows tall trees on the east bank.

Revegetation on the east bank in Reach 10A is proposed to be 10-foot wide and therefore willow riparian. The planting area cannot be larger because of the constraints of adjacent Almaden Road. Refer to Response to Comment 32-38. The inconsistency between the typical sections has been corrected.

Response to Comment 32-25

The comment references page 17 of the Executive Summary and asks for clarification on whether the maintained 25-foot low-flow channel corridor would include removal of overhanging branches from trees on the bank.

Native vegetation would be removed or restricted in height in a 25-foot wide corridor in the existing low-flow channel in Reaches 6-12 and a 50-foot wide corridor in Reach A to maintain flood capacity. Within the corridor, overhanging branches that are at or below 20 feet above the channel invert or at the top of the bank, whichever is less, and greater than six inches in diameter would be trimmed to maintain the flow-way. Vegetation in the channel bottom that is outside the corridor would be trimmed when the vegetation height exceeds 10 feet. Native vegetation on the banks would not be removed under the proposed maintenance program. Refer to Response to Comment 13-22.

Response to Comment 32-26

The comment references Table 3 in the Executive Summary and states that NMFS should be listed for conferencing on the steelhead.

The EIR/EIS authors concur.

The following change is made to the Draft EIR/EIS:

Page ES-20. Table 3 is corrected to read as follows:

Agency	Permit Required
National Marine Fisheries Service U.S. Fish and Wildlife Service	Conference with NMFS and FWS under ESA under ~~proposed~~ listing of steelhead as threatened and listing of the red-legged frog as threatened.

Response to Comment 32-27

The comment references page 22 of the Executive Summary and suggests that Appendix C is mis-referenced in the Water Quality section as containing descriptions of monitoring of mitigation measures.

The reference to Appendix C refers to the remedial actions that would be taken by the District if monitoring indicates that they are necessary. No change in text is necessary.

Response to Comment 32-28

The comment lists the three alternatives evaluated in the Draft EIR/EIS and identifies the lead agencies for CEQA and NEPA.

The comment is correct.

Response to Comment 32-29

The comment asks if the mitigation bank totals for riparian and SRA habitat are included in the environmental consequences analysis and in Tables 4.12-7 and 4.14.5. or are the mitigation bank totals in addition to the mitigation described in Chapter 4.

The mitigation bank totals for riparian and SRA habitat are included in the description of mitigation in Chapter 4. In Table 4.12-7, the riparian habitat to be banked is shown in the table as "extra habitat planned" and the "Notes" include a statement, "extra riparian forest is planned under both alternatives as a mitigation bank." In Table 4.14-6, the net change in overwater vegetation is that amount that will be used for the mitigation bank. See also Response to Comment 2-3.

The following change is made to the Draft EIR/EIS:

Page 4.14-43 (Table 4.14-6). A footnote is added to the table as follows:

> The net change in overwater vegetation due to the proposed mitigation is planned to be used in a mitigation bank.

Response to Comment 32-30

The comment requests an explanation of how the proposed bank edge riparian vegetation would compare with the existing bank edge riparian vegetation in composition and size.

The existing bank edge riparian vegetation is described in the Draft EIR/EIS on page 4.12-5. The mitigation plantings will include only species native to the local riparian system as described in the Draft EIR/EIS on page 4.12-31. This comment is further addressed in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 32-31

The comment asks that the impacts on ordinance trees be expressed proportionally.

The EIR/EIS authors concur.

The following change is made to the Draft EIR/EIS:

Page 4.12-26. Revise the next-to-last paragraph under "**Impact V-1**" to read:

> *Trees Protected by City Tree Ordinance.* Project construction would result in the removal of ~~an estimated~~ up to 250 to 300 trees that are large enough (over 18 inches DBH) to qualify for protection under the City's tree ordinance. This represents up to 30-36 percent of the 834 riparian forest trees in this size class counted in the tree inventory. The District would be required to obtain a tree removal permit and provide compensation for ordinance trees that are not on District property.

Response to Comment 32-32

The comment asks for clarification of the gap analysis and suggests that Reaches 10B and 10C need to be separated in the gap analysis.

The EIR/EIS authors agree that a more sophisticated riparian forest fragmentation analysis could have included additional factors and identified other differences between pre-project and post-project conditions. The analysis performed here was intended to provide only a "relatively simple and rapid comparison of riparian forest length and gaps in riparian habitat before and after project construction." (see page 4.12-1 of the DEIR/EIS). The analysis as presented adequately documents and provides approximate measures of reduced forest fragmentation when mitigation plantings are mature. For purposes of this analysis, the EIR/EIS authors do not agree that it is necessary to split Reaches 10B and 10C as there existing and future conditions are not dissimilar.

The following changes are made to the Draft EIR/EIS:

Page 4.12-1. Revise the last paragraph under "*Riparian Forest Fragmentation Analysis*" to read:

> Sources of inaccuracy include generalization of vegetation patches during mapping, the generally conservative dimensions of mitigation polygons (because they are based on ground-level planting area, not mature canopy dimensions), and the small scale of the maps used (1 inch = 200 feet). The limitations of this method include not addressing the values associated with patch width or area, species composition, vegetation height, distance from edge of bank, and not integrating patches and gaps on both sides of the river. Nevertheless, the method is adequate for a relatively simple and rapid comparison of riparian forest length and gaps in riparian habitat before and after project construction.

Response to Comment 32-33

The comment disagrees that impacts on 7 acres of scrub-shrub are not a significant impact.

Impacts on ruderal scrub habitat were considered less than significant because ruderal scrub in the project area is supports less biological diversity than forest habitats, it often represents former forest that has been disturbed or cleared, and most of it is not closely interspersed with or adjoining the riparian forest, as the comment suggests. About 65 percent of impacts on ruderal scrub occur where it is in closer proximity to ruderal herbaceous, upland landscaping, and unvegetated habitats in Reaches A, 10B, 11B, and 12 (Table 4.12-5 and Plates V-21, 22, 23, 24, 32, 35, 36, and 37). Some ruderal scrub sites that are currently sparse, disturbed, or contain substantial amounts of non-native vegetation have been proposed for restoration to riparian forest.

Response to Comment 32-34

The comment argues that the fragmentation analysis is inadequate.

Refer to Response to Comment 32-32.

Response to Comment 32-35

The comment asks for the length of river bank affected by erosion repair activities.

The following change is made to the Draft EIR/EIS:

Page 4.12-27. Revise the last sentence in the paragraph beginning "**Impact V-3: ...**" to read:

> The maximum combined area of flood-caused impacts and construction-caused impacts due to erosion repair would be approximately 0.78 acre, affecting 1,075 linear feet of river bank.

Response to Comment 32-36

The comment states that the largest gains in riparian vegetation through mitigation occur in Reaches 12-13 and 7-8 and states that the differences in habitat quality due to displacement of vegetation horizontally or vertically from the invert need to be discussed.

The greatest gains in riparian vegetation are in Reaches 10B-10C and 12-13 (see Table 4.12-7, page 4.12-28). The mitigation in Reaches 12-13 and 7-8 are suitable for riparian plantings because of their location within the historic riparian zone and their position below the top of bank. The habitat quality is also expected to be enhanced through the use of native species. This comment is also addressed in the Habitat Mitigation and Monitoring Plan.

Response to Comment 32-37

The comment recommends review of the USFWS Coordination Act Report for the Corps' Upper Guadalupe River Flood Control Project and the updated aquatic and terrestrial HEPs and that appropriate values be included in the EIR/EIS.

The USFWS Coordination Act Report (CAR) has been reviewed. The CAR addresses project impacts and mitigation measures for only Reaches 7-12 (the Corps' project area). Existing habitat numbers for similar reaches largely agree. Riparian impact numbers are slightly greater in the CAR, because of the slope-corrected method employed by USFWS. However, the mitigation ratio for riparian habitat is 1.4:1 in the CAR and 2:1 in the Draft

EIR/EIS, so the end results are similar. SRA habitat impacts are considered to be slightly larger in the Draft EIR/EIS than in the USFWS Coordination Act Report.

Response to Comment 32-38

The comment states that SRA habitat planting adjacent to floodways may be subject to higher, more erosive velocities, especially in Reaches 9 and 10A. It also states that canopy widths of mature SRA plantings range from 10 to 50 feet and requests that allowable canopy widths in Reaches 9 and 10A be described.

The SRA habitat plantings in Reaches 9 and 10A are proposed for areas where riparian and/or SRA habitat existed pre-project. The velocities experienced by these SRA habitat plantings are expected to be somewhat less post-project than those experienced pre-project because of the increased floodway width.

Canopy widths in Reach 9 will range from 10-50 feet with canopy closure over the river expected in many areas. Revegetation on the east bank in Reach 10A is proposed to be 10-foot wide and consist of willow riparian. The plantings cannot be larger because of the constraints of adjacent Almaden Road.

Response to Comment 32-39

The comment states that long-term monitoring of mitigation sites is needed to ensure that mitigation goals are met.

This comment is addressed in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 32-40

The comment notes that California red-legged frogs have been recorded in Guadalupe, Alamitos, and Los Gatos Creeks, which are all upstream of the project area.

Refer to Response to Comment 5-11.

Response to Comment 32-41

The comment states that the Draft EIR/EIS inaccurately states that the USFWS concurred with the terrestrial HEP analysis and asks for additional explanation of why the Draft EIR/EIS concurred with the USFWS's recommendation for a 2:1 mitigation ratio for riparian habitat.

As indicated on page 4.13-2 of the Draft EIR/EIS, an interagency HEP Conference was conducted in January 1993 to discuss the results of the HEP analysis prepared in 1991. The conference participants concluded that the field surveys were adequate to characterize the habitat requirements of riparian wildlife, including the evaluation species, and assess the impacts on the evaluation species. However, the suggested riparian mitigation ratio of 0.8:1 was modified by the HEP to 2:1 in conformance with the USFWS Draft Coordination Act Report (USFWS 1993). The USFWS Final Coordination Act Report (August 1998) identified slightly greater riparian impact numbers than the Draft EIR/EIS, because of the slope-corrected method employed by USFWS. However, the mitigation ratio for riparian habitat is 1.4:1 in the CAR and 2:1 in the Draft EIR/EIS, so the end results are similar. The text on page 4.13-20 is modified below to more accurately reflect the conclusions of the HEP Conference.

The Draft EIR/EIS is modified as follows:

Page 4.13-20. The fourth and fifth full paragraph are modified as follows:

> **Impact WL-1: Removal of Riparian Wildlife Habitat.** The HEP team (i.e., representatives from USFWS, DFG, the District, and Jones & Stokes Associates) for the Guadalupe River Flood Control Project agreed that the field surveys ~~and the HEP analysis~~ prepared by The Habitat Restoration Group and BioSystems Analysis were adequate to characterize the habitat requirements of riparian wildlife, including the evaluation species, and assess the impacts on the evaluation species.
>
> The HEP analysis of the riparian wildlife resources of the proposed project was designed to:
>
> - Describe the existing riparian wildlife habitat conditions for selected evaluation species in the proposed project area and mitigation sites;
> - Determine the baseline riparian wildlife habitat values for the evaluation species in the proposed project area and mitigation sites;
> - Quantify impacts on riparian wildlife habitat from implementation and operation of the proposed project;
> - Determine whether the proposed compensation mitigation plan would fully offset direct, on-site, project-related impacts on riparian wildlife habitat for the evaluation species; and
> - Develop management actions for mitigation sites in the proposed project area.
>
> A Habitat Evaluation Procedures Conference with participating resource agencies (DFG, USFWS, and Corps) was conducted in January 1993. The purpose of this meeting was to review the District's terrestrial riparian Habitat Evaluation Procedure (HEP) for the project. The HEP recommended a 0.8:1 mitigation ratio. The USFWS, in the Draft Coordination Act Report (USFWS 1993) recommended a 2:1 ratio be used to compensate for the loss of riparian habitat. This mitigation ratio has been used in this EIR/EIS and is the basis for the mitigation plan outlined in the biotic resources analyses. The USFWS Final Coordination Act Report (August 1998) identified only slightly greater riparian impact numbers than the Draft EIR/EIS, because of the slope-corrected method employed by USFWS.

Response to Comment 32-42

The comment states that Skinner (1962) summarizes steelhead reproduction in tributary streams below the dams, that steelhead are presently proposed for listing as endangered, and that a former striped bass fishery was present in the lower river.

The Draft EIR/EIS includes the information by Skinner (1962) regarding historical occurrence of steelhead on the tributary streams below the dams (See under "Distribution and Abundance" on page 4.14-9 of the Draft EIR/EIS). The Draft EIR/EIS has been updated to reflect the listing of steelhead as threatened (steelhead were originally proposed as endangered).

Page 4.14-8: The following change has been made to the first full paragraph on page 4.14-8 to reflect the historical presence of striped bass:

> *Fish Species Known to Occur Within The Project Area*
>
> Based in part on sampling by biologists with The Habitat Restoration Group, native and introduced fish species are known to occur within the project area (i.e., Reach A and Reaches 6-13). Native species include both anadromous and resident species. Native anadromous species include chinook salmon, steelhead trout, and Pacific lamprey (*Lampetra tridentata*). Native resident fish species include Sacramento sucker, California roach, hitch (*Lavinia exilicauda*), prickly sculpin, and riffle sculpin. Introduced species include largemouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyanellus*), goldfish (*Carassius auratus*), carp (*Cyprinus carpio*), mosquitofish (*Gambusia affinis*), brown bullhead (*Ictalurus nebulosus*), and pumpkinseed (*Lepomis gibbosus*) (White 1991 1993, Gilroy 1996). Other species listed as occurring historically in the Guadalupe River include striped bass (Skinner 1962). Tributaries in the upper reaches of the Guadalupe River drainage contain primarily native species, such as rainbow trout, California roach, Sacramento sucker, and sculpin. Appendix F-A (in Volume III) provides the relative composition, distribution, and abundance of fish species collected in 1986 and 1987 by The Habitat Restoration Group in the Guadalupe River and tributary streams.

Response to Comment 32-43

The comment suggests that the water temperature needs for chinook salmon and steelhead cited in the Draft EIR/EIS are incorrect or misleading.

The EIR/EIS authors disagree. The information presented on the habitat requirements of chinook salmon and steelhead, particularly with respect to water temperature, is consistent with the information reported in the scientific literature (with one minor exception). Although the Draft EIR/EIS states that 77°F is the upper lethal limit for these species, it does qualify this by stating that survival at these temperatures is dependent on a number of factors (e.g., exposure duration). Furthermore, the Draft EIR/EIS also presents the range of water temperatures that provide *optimal* growth and survival, which are considerably colder. The Draft EIR/EIS has been changed, however, to reduce any confusion regarding the temperature needs of the species and to correct an error for the lower optimal limit for growth.

Page 4.14-12. The second paragraph is changed as follows:

> Habitat Requirements. Requirements for optimal juvenile rearing include adequate cover, residual pool depths, food supply, and water temperatures of ~~43°~~ 53°-65°F (Raleigh et al. 1984). Smith (1982) found steelhead trout juveniles residing in streams of the Pajaro River drainage where summer water temperatures were approaching 74°F. Juvenile survival at these warmer water temperatures depends, however, on a number of factors (e.g., exposure duration, acclimation factors, food availability, water quality [specifically dissolved oxygen concentrations], and ground water dynamics). In general, the upper lethal temperature for trout is 77°F, but only for short periods of time (Raleigh et al. 1984). While survival at these warmer temperatures is possible, it should be noted that steelhead and rainbow trout are coldwater species and that conditions for juvenile growth and survival decline as water temperatures begin to exceed 64.4°F (18°C) (Raleigh et al. 1984). Juvenile steelhead trout primarily occupy riffle habitats, although pool habitats with adequate water depth and escape cover are especially critical during the summer low-flow period and during extensive periods of drought.

Response to Comment 32-44

The comment states that straying of fish into the Guadalupe River system caused by the release of imported water from the Delta should be considered an impact of the percolation program and mitigated prior to issuance of a permit.

The EIR/EIS authors disagree. The Draft EIR/EIS presented several different reasons why chinook salmon may be straying into the Guadalupe River system, if they are indeed strays. For example, one of those reasons also included the fact that the California Department of Fish and Game releases chinook salmon smolts to the Bay and Delta, which is known to cause an increase in the rate of straying by returning adults. The intent of the discussion in the Draft EIR/EIS was to provide the reader with an explanation of the range of possibilities of why chinook salmon might stray into the Guadalupe River, of which the release of imported water could be a contributing factor.

Response to Comment 32-45

The comment states that the Draft EIR/EIS should discuss the flow, depth, and substrate conditions in the upper river and creeks compared to the lower river and how chinook salmon preferences compare to their distribution in the Guadalupe River system.

See Master Response J. The information in the Draft EIR/EIS presents a summary of the known distribution of chinook salmon, which is from tidewater (well downstream of the project area) to Reach 12 (i.e., the upper reaches of the project area). The impact assessment considers the potential for impacts on chinook salmon, with special emphasis on those that migrate into the project area, and proposes appropriate protective and mitigation measures to avoid and compensate for significant effects.

Response to Comment 32-46

The comment states that the Draft EIR/EIS needs to discuss and correct whether or not the reaches with 71-79 percent pool or pool/runs are equivalent to those with 24-27 percent riffles or riffle/runs.

The information presented in the Draft EIR/EIS is a summary of the habitat typing information collected by the District's consultant. Table F-A.7 in Appendix III of the Draft EIR/EIS presents this information as provided by the District's consultant. The reaches identified as having 71-79 percent pool or pool/runs are not equivalent to those with 24-27 percent riffles or riffle/runs because a fifth habitat type (i.e., runs) varies in its relative percentage of the composition of habitat types found in these reaches. Consequently, the reaches with 71-79 percent pool or pool/runs have slightly more pool and pool/run habitats and less riffle and run/riffle habitats than the other four reaches (i.e., those with 24-27 percent riffles or riffle\runs).

Response to Comment 32-47

The comment recommends adding the citation White (1991) to the reference list in Chapter 11.

White (1991) is included in the "Persons Consulted" section of Chapter 11 of the Draft EIR/EIS.

Response to Comment 32-48

The comment suggests that barrier removal may have a limited effect on the spawning distribution of chinook salmon, which appear to favor the river segments near Downtown San Jose.

The EIR/EIS authors concur with these statements regarding the present distribution of chinook salmon. The Draft EIR/EIS discusses the spawning distribution of chinook salmon based on adult carcass and redd surveys which clearly show that the majority of chinook salmon presently spawn downstream of the project area. See Master Response J.

Response to Comment 32-49

The comment suggests that the potential for bank failure in the reaches where floodways are constructed be evaluated.

Refer to Response to Comment 14-3.

Response to Comment 32-50

The comment states that areas that could potentially form undercut banks be evaluated in terms of bank steepness, height above the invert, and expected size of planted vegetation at maturity.

See the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 32-51

The comment requests that additional information on how SRA cover mitigation values were calculated be included in the Final EIR/EIS.

The EIR/EIS authors concur. The impact analysis for SRA cover recognized that a continuous revegetated strip along the water would not necessarily correlate to 100-percent contact length with the bank/stream interface. In other words, we recognize that gaps exist in any forested canopy. For this reason, the impact analysis determined mitigation distances by multiplying total lengths for revegetation by 0.85 to reflect this difference. The value was determined by measuring the existing contact length in undisturbed reaches of the Downtown Guadalupe River FCP reaches.

The following change is made to the Draft EIR/EIS to clarify how mitigation values were calculated for SRA cover:

Page 4.14-42. The fourth full paragraph is modified as follows:

> ~~In association with replanted riparian vegetation, the District would replace 5,096 linear feet of overwater vegetation. SRA habitat, represented by overhead vegetation and undercut bank in this analysis, is a Resource Category 2 habitat. The USFWS's mitigation goal for a Resource Category 2 habitat is no net loss of linear feet, area, and habitat value. USFWS, in their draft Coordination Act Report, concluded that instream and overhead cover variables should be replaced at a ratio not less than 1:1 in terms of linear feet, area, and habitat value (U.S. Fish and Wildlife Service 1993). Implementing the proposed mitigation measures would result in no net loss of overhead vegetation and undercut bank.~~ Mitigation values for SRA vegetation were computed by planimetering the length of stream on the plate volumes where mitigation plantings (i.e., woody riparian) is proposed for planting. Only plantings proposed within 15 feet (horizontal distance) of the low flow channel were considered in the tabulation, based on input received by the USFWS. SRA cover mitigation quantities reported in the Draft EIR/EIS were determined by multiplying the length of stream, where revegetation with riparian species that were within the 15-foot criteria was proposed, by a factor of 0.85. This 0.85 factor takes into account that gaps in canopy cover that will occur as the planted vegetation reaches maturity. In other words, the actual length of bank that is proposed for revegetation exceeds the amount of SRA needed by about 18-percent to ensure that the minimum 1:1 replacement ratio of SRA cover is met at vegetation maturity. The 0.85 multiplier was empirically derived by comparing SRA cover length to natural bank length in a section of stream near downtown San Jose that supported mature riparian vegetation. ~~Locations of proposed revegetation sites, including SRA cover mitigation sites, are presented in Plates V-41 through V-53 (in Volume II). In combination with proposed improvements to fish passage conditions on Guadalupe Creek (below), these measures will result in a net increase in available SRA habitat.~~

Response to Comment 32-52

The comment recommends that the discussion related to barrier removal include whether the barrier removal would occur with or without the proposed project and whether screening of diversions is necessary.

Refer to Response to Comment 2-11. With regard to screening of diversions, the District currently operates three seasonal water diversions within the Guadalupe River watershed: at Almaden Reservoir, along Guadalupe Creek at Masson Dam, and along the upper Guadalupe River at the Alamitos drop structure. The diversion at Almaden Reservoir consists of an open ditch (i.e., canal) that delivers water to Calero Reservoir on Arroyo Calero Creek. On Guadalupe Creek, water is diverted to the Los Capitancillos Ponds (a series of off-channel groundwater recharge ponds along lower Guadalupe Creek). On the upper Guadalupe River, water is diverted at the District's Alamitos drop structure to the Alamitos Ponds (off-channel groundwater recharge ponds located behind the District's headquaters). The two stream diversions (i.e., on Guadalupe Creek and the upper Guadalupe River) are gravity-fed diversions and consist of unscreened gated culverts (pipe). The District is proposing to screen these two diversions in 1999, eliminating the potential for fish, including threatened steelhead, from being entrained at these two diversions (Neudorf 1998).

Response to Comment 32-53

The comment states that the relationship of the Downtown Project and the Upper Guadalupe River Flood Control Project mitigation areas needs to be explained.

See Master Response F.

Response to Comment 32-54

The comment requests that the FEIS clarify the methods of the archival search and identify the archives reviewed. In addition, the National Park Service requests that the protocols employed in subsurface testing and visual surface inspection carried out in 1996 for the project area be disclosed in the FEIS.

The EIR/EIS authors concur.

The following changes are made to the Draft EIR/EIS:

Page 4.16-1. The first full paragraph is modified as follows:

> **Methods**
>
> ~~An archival search was completed to determine if cultural resources exist within the project area.~~ Prior to reconnoitering the subject area, staff at the Northwest Information Center of the California Archaeological Site Inventory conducted a study of maps and records in their archives. The maps studied included both USGS Base maps and USGS Primary Number maps. The records studied included archaeological Site Records, Study Reports, listings on the National Register of Historic Places, the California Inventory of Historic Resources, California Historical Landmarks,

California Points of Historical Interest, and the Historic Properties Directory. This research into the records at the Northwest Information Center was done to determine if any known archaeological or historical resources were reported in or around the subject area. Additional archival research was conducted in-house by staff of Archaeological Resource Management. Materials consulted included Site Records and USGS Base maps compiled and updated by Archaeological Resource Management since 1977.

Significant cultural resources present in the project area are primarily prehistoric, although there is also an historic component.

Subsurface testing conducted in 1990 included six prehistoric archaeological sites and one historic site in the vicinity of the project area. The hand unit excavation testing was carried out by assessing field conditions prior to excavation, developing a particular field methodology for prehistoric versus historic sites, using arbitrary stratigraphic excavation for prehistoric sites and natural stratigraphic excavation for historic sites (the latter is combined with arbitrary stratigraphic excavation until a feature is uncovered), locating excavation units by referencing a datum point, and orienting the excavations on magnetic coordinates. Backhoe test trenching was also used to investigate the presence of buried cultural resources and their boundaries. Test trenches were excavated to locate site boundaries. As each trench was excavated, the soils were placed alongside the trench for investigation. The use of a backhoe provided for deep excavation, large soil samples, clear soil profiles in the trench walls, and rapid placement of many trenches to secure the data required. Upon completion of each trench, the backhoe was used to backfill the soils removed. The testing was designed to define depth, contents, and soil stratigraphy.

Buildings within the Preferred Project area were evaluated in 1990 for their historic significance based on local, state, and federal guidelines. That same year, architectural evaluation forms for structures in the Preferred Project Alternative were prepared.

In addition to the archival research, in 1996, an updated surface reconnaissance was conducted. A "general surface reconnaissance" was conducted on all open land surfaces in the subject area. All sites were surveyed on foot along transects organized at 10-meter intervals. Visual inspection was conducted of all portions of the study area where the surface could be seen without major modification of the vegetation or structural cover, and where it was reasonably possible that human activities that would leave traces.

A "controlled intuitive reconnaissance" was performed in places where burrowing animals, exposed banks and inclines, and other activities had revealed subsurface stratigraphy and soil contents. This inspection focused on areas known to be likely sites for archaeological resources based on familiarity with local settlement patterns. This survey included field inspection of native soils and recently exposed or disturbed soils in the vicinity of the project area along Guadalupe River, Canoas Creek, and Ross Creek. A ~~cursory~~ visual evaluation was completed by Archaeological Resource

> Management of ~~additional~~ structures proposed for demolition in the Preferred Project as well as the Minimize Vegetation Impacts Alternative (MVIA). ~~The Minimize Vegetation Impacts Alternative includes additional structures which would need formal historic and architectural evaluations should the plan be implemented.~~ In the process of completing the structural evaluations for both the Preferred Project and the MVIA, a Department of Parks and Recreation (DPR) 523 form was completed for each of the residential structures. Each DPR form documents the address of the structure, its architectural type, a description of the property, and an evaluation of each structure for potential inclusion in the National Register of Historic Places.

Response to Comment 32-55

The comment requests that the boundaries of site CA-SCL-706 be determined and documented in the FEIS. If the site is within the proposed work area, determinations of effect and significance need to be made in consultation with the SHPO.

The EIR/EIS authors concur.

Page 4.16-3. The second full paragraph is modified as follows:

> In 1996, three test units were placed in the yard of a residence on McLellan Avenue (at SCL-706, also known as the McLellan Site) revealing traces of ~~a prehistoric~~ cultural resources ~~deposit~~, which included *Olivella* shell and historic pottery fragments. The deposit reached a depth of about 60 cm and had a high degree of historical contamination. ~~Due to the intense development, it is impossible to determine at this time the extent and significance of the subsurface remains of the site. This prehistoric resource has undefined limits and the possible presence of human burials is uncertain.~~ The prehistoric resource, SCL-706, was tested again in 1998 with 21 bore augers, three backhoe test trenches, and one hand excavated unit. Auger testing revealed disturbed soils at the site, with historic materials (i.e., a ceramic fragment, charcoal, lumber, concrete, mammal bone, bottle glass, and other building debris) in nine of the 21 augers. Test trenching also revealed disturbed soils with concrete and brick fragments, asphalt, and galvanized pipe found in two of the three trenches. In addition, historic materials were found between 0-60 cm in the hand excavated unit. These materials included glass, machine cut bone, plastic, square and round nails, brick and concrete fragments, ceramics, and various pieces of metal. The only remains that may indicate prehistoric activity at this location were three fragments of *Haliotis* shell excavated in the 40-60 cm level of Unit 1.
>
> This prehistoric cultural resource (SCL-706) was evaluated according to the criteria of eligibility for inclusion in the National Register of Historic Places (NRHP). This prehistoric cultural resource is not intact, and it does not appear to meet the criteria of eligibility for inclusion on the NRHP. As noted above, the soil at SCL-706 is highly disturbed with historic materials recovered in bore auger testing, backhoe test trenching, and hand unit excavation. Only questionable prehistoric remains were recovered during testing at SCL-706 (*Haliotis* shell fragments); the remaining cultural materials were all historic in nature. The intrusion of historic materials into the area

of this prehistoric site has severely destroyed the site's integrity. Thus, SCL-706 does not appear to potentially yield significant information about the prehistory of the Santa Clara Valley.

Response to Comment 32-56

The comment requests that the location of site CA-SCL-690 relative to the Guadalupe River Flood Control Project be identified. The presence of Native American remains at the site is to be determined and any "values at risk" to be treated appropriately in consultation with the SHPO and the California Native American Heritage Commission. The FEIS should clarify these issues.

The EIR/EIS authors concur.

Page 4.16-3. The fifth full paragraph is modified as follows:

> **Reach 7.** In 1990, a large prehistoric village/cemetery site, CA-SCL-690, was identified on a low terrace east of the bank of the Guadalupe River near the SPRR tracks 600 feet east of Reach 7. ~~Archaeological investigations, conducted by Caltrans and San Jose State University, indicate an approximate age range of AD 720 and AD 1270 with the bulk of the dates near AD 1000. Cultural material found at the site included shell beads and pendants, manos, mortars and pestles, projectile points, a bone whistle, shell, and other artifactual and non-artifactual material (Cartier et al. 1993).~~ Site CA-SCL-690 was recorded by Mark Hylkema of the California Department of Transportation (Caltrans 1990). At the time it was first recorded, Hylkema noted a large prehistoric cemetery consisting of multiple human burials and burned earth lenses in this location. Artifactual remains included shell beads and pendants, mortars and pestles, manos, projectile points, Franciscan and Monterey banded chert debitage, bone awls and whistles, and miscellaneous bone tool fragments. Faunal remains included those of *Cerithidea* shell and terrestrial mammals. Recent communications between Archaeological Resource Management and Caltrans noted that 125 human burials have been recovered at site SCL-690 to date (Hylkema, personal communication 1998). These 125 burials have all been re-interred within the site. Additional remains are thought to exist in the northern portion of the site. Archaeological investigations at this site by Caltrans and San Jose State University estimate the age of the site to be between A.D. 720 and A.D. 1270. The mean date for cultural materials at the site falls at about A.D. 1000.
>
> The boundaries of site CA-SCL-690 were investigated in order to determine if it is within the impact area for the Project. Based upon conversations with Mr. Mark Hylkema of Caltrans, who has performed extensive excavations at site SCL-690, it is known that the western boundaries of the site which are outside the project area have not been formally determined. Mr. Hylkema did provide an estimated site boundary determination based upon his previous work at SCL-690, the results of which are presented in the Site Boundaries and Area of Potential Impact map for site CA-SCL-690. The locations of Native American burial excavations and the reburial area for these remains were determined from conversations with Caltrans (see site boundary

map for SCL-690). Subsurface testing was subsequently carried out by Archaeological Resource Management in order to determine that no traces of the cultural deposit from SCL-690 existed within the impact area for the Project. Hand auger borings, backhoe test trenches, and hand unit excavation within the project area nearest SCL-690's location indicated that no traces of the SCL-690 deposit exist within the area tested.

Due to the lack of cultural deposit within the Project's impact area near site SCL-690, a National Register evaluation of the site was not necessary. Should cultural materials become exposed during the construction phase of the Project in the area near site SCL-690, a National Register evaluation of those prehistoric materials would be in order at that time.

Response to Comment 32-57

The comment requests that the cultural resource specialist indicate whether CA-SCL-635H is within the proposal's impact area. Also, the California SHPO identification number needs to be included in the FEIS for the Valley View Packing Company site. When describing this site in the FEIS, its size, location, and elements of the property should be included. The SHPO should be consulted regarding the site's NRHP eligibility and this communication should be documented in the FEIS.

The EIR/EIS authors concur.

Page 4.16-4. The description of Reach 10 starting in the fifth full paragraph is modified as follows:

> **Reach 10.** No prehistoric resources were found in this reach. The historic site CA-SCL-635H is a redwood retaining wall identified 35 feet east of the Guadalupe River near the top of the river bank. This historic site was first noted in a 1985 cultural resource evaluation of this area conducted by ARM (Cartier 1985). At that time the feature was believed to have been built to control erosion and it appears to be over 100 years old. The site was recorded by Basin Research Associates in 1987. The site was noted to consist of an historic retaining wall feature located at the top of east bank of the Guadalupe River (approximately 20 to 30 feet high at a 50 percent slope). The retaining wall was constructed of ten "vertical 8 x 8 foot redwood posts with large planks hung between 2 x 12 and 4 x 6 stringers" (Ogrey et al. 1987). The feature was held together by square nails. Historic glass and metal fragments were collected on the surface of the site in what was identified as the historic "toss zone" along Almaden Road. No age for the feature was determined when the site was first recorded. Subsequent study of this resource was carried out by Archaeological Resource Management during a prior phase of work for the Project. It was reported at that time that the feature is possibly associated with flood control activities dating from the 1860s and 1870s (Laffey 1990: 9). ~~No other archival information about this feature is available. In test excavations for the current study, it was found that the vertical redwood planks of the wall continue beyond a depth of 265 cm, and there was an historic waste component in the surrounding soils. It is likely that the feature is~~

~~associated with flood control activities dating from the 1860s and 1870s. The age of this feature would contribute to its significance as a cultural resource.~~

Valley View Packing Company ~~is~~ was located on Old Hillsdale Avenue in Reach 10 of the project area. This company was established in 1938 by the Rubino brothers and ~~is~~ was a survivor of the rapidly disappearing fruit processing industry in the Santa Clara Valley. It has been recorded at the Northwest Information Center of the California Site Inventory as site number P-43001122.

Constructed in 1961, the Valley View Packing Company office building was a one-story rectangular concrete building featuring a flat, parapeted roof and asymmetrical facade faced with irregular-sized rectangular sandstone cobbles.

The Valley View Packing Company complex was started in the late 1930s and completed in 1961. This agglomeration of expansions ultimately covered eight acres and consisted of buildings housing processing equipment, regular and refrigerated storage space. The buildings were wood-framed with open truss ceilings, concrete floors, metal-frame industrial sash windows and roll-down metal doors. The older buildings within the complex which dated to the 1930s and 1940s feature gabled roofs with V-channel horizontal siding. The older warehouses were entirely engulfed by the newer buildings with flat or arched roofs. The buildings that faced Hillsdale Avenue shared a stucco facade which unified three buildings, apparently built at different times.

Other buildings associated with the Valley View complex included two one-story wood-frame buildings with low-pitched gable roofs, exposed rafter tails, and cornerboarded horizontal V-channel siding. These two buildings were located along Guadalupe Creek. In addition, a large open structure once stood north of the packing house facility. This building consisted of a concrete pad with a post-supported high roof. It was probably a "carport" used to shelter trucks and other vehicles used in the packing house and orchard.

Built in the 1930s, the Rubino residence consisted of a one-story California bungalow that faced the Guadalupe River (west). The residence was located north of the main packing facility. The residential property contained the Rubino home, a detached garage and recreation room, and a probable canning shed. The detached recreation room associated with the Rubino residence was built in the 1940s or 1950s. This building was brick with a barrel-tiled hipped roof and a large, built-in outdoor barbecue and brick patio. It also contained a wet bar, stove and bathroom. Large dog runs and bird cages were associated with the Rubino residence buildings as were the ruins of a possible barn.

Three resources associated with the Valley View Packing Company on Hillsdale Avenue ~~are~~ were previously located within the project alignment: an industrial building, a residence, and an abandoned prune dehydrator. These three resources have since been demolished or removed from the property. It was determined by ARM and the U.S. Army Corps of Engineers that the prune dehydrator was the only element of the Valley View complex that qualified as potentially eligible for inclusion in the National Register of Historic Places. The prune dehydrator, however, had been removed from the Valley View property by the time of this study in 1998 (Patricia Rubino, personal communication). Thus, the complex itself lacked integrity, and its key historical element (the prune dehydrator) was no longer present. The Valley View Packing Company has therefore been determined to be ineligible for inclusion in National Register of Historic Places by the Office of Historic Preservation. ~~Due to its representative character of the fruit packaging era in Santa Clara County, it is considered significant under criterion "A" of the National Register. The Rubino residence and the prune dehydrator date to an earlier period of development. The Prairie-style Rubino residence was constructed by Pietro Rubino for his family in the early 1930s. Three generations occupied the house until 1974 when it was converted for use as company offices. Due to the structure's age, style, and historical association, it has moderate historic significance.~~

Response to Comment 32-58

The comment requests that a determination of the project's impact to site CA-SCL-636 be made and these effects and the site's significance discussed with the SHPO.

The EIR/EIS authors concur.

Page 4.16-5. The first full paragraph is modified as follows:

Reach 11. A prehistoric resource, SCL-636, is recorded within "40 feet southeast of the Guadalupe river," north of Wellington Square and Thousand Oaks Drive (Ogrey and Guedon 1987). This site was recorded by Patricia Ogrey and Stuart Guedon of Basin Research Associates in 1987. It was noted to consist of fire-cracked rock (i.e., prehistoric cooking stones) and unidentified "lithics" in a light brown, silty, alluvial clay soil with gravels. The site was recorded directly adjacent to a residence on Steval Place "with the rest of the site now being under the adjacent subdivisions and [the residence]" (Ogrey and Guedon 1987). The site's setting is in an old orchard area just above the main floodplain of the Guadalupe River. SCL-636 is ~~on the edge of~~ within the Preferred Alternative and ~~within~~ the proposed Minimize Vegetation Impacts Alternative. ~~Exposed fire-cracked rocks and prehistoric stone tools were identified on the surface of the site. It appears that the observed artifacts represent only a portion of a site which may extend further under existing structures on private property.~~ Widening of the east bank ~~may~~ will ~~have an effect on~~ severely impact site SCL-636.

The prehistoric resource, SCL-636, was tested with 17 bore augers, 12 backhoe test trenches, and three hand excavated units by ARM in 1998. Nine of 12 test trenches used for boundary determination were sterile, the balance yielding varying amounts of thermally-altered rock. The first two hand excavated test units produced only one prehistoric artifact, whereas the third unit yielded 72 artifacts.

Prehistoric materials recovered in the hand excavation included fire-cracked rock (prehistoric cooking stones), Franciscan and Monterey-banded chert flakes, quartzite flakes, *Cerithidea* shell, and a groundstone fragment. Charcoal was encountered in the unit as well. Most of the prehistoric artifactual material consisted of secondary flakes from stone tool manufacturing activities. The groundstone material encountered consisted of a fragment from a mano, or a hand-held grinding tool. Burned bone fragments of a small or medium sized mammal were encountered at a depth of 40-60 cm in Unit 3. Thus, SCL-636 appears to reflect a prehistoric occupation where stone tool manufacturing, food processing (e.g., grinding), cooking, and possibly terrestrial hunting activities took place. This occupation may have been long term or seasonal in nature.

Historic materials noted at the site included cut mammal bone, a recent coin (1975 penny), glass fragments, sheet metal fragments, nails, plaster, wire, aquarium gravel, serpentine gravel, and concrete pipe. Serpentine gravel and a five inch concrete pipe constitute the remains of a French drain uncovered at a depth of 105 cm within Unit 3. The presence of this French drain at a considerable depth in Unit 3 indicates severe subsurface disturbance and a non-intact deposit where tested.

Although the recovered artifacts at SCL-636 may be attributed to prehistoric Native American activity in this location, the site itself has been severely disturbed by the construction of a house, an associated drainage system, and dog kennels adjacent to the structure. As demonstrated by the results of excavations at Unit 3 in 1998, this site contains pockets of richly concentrated artifactual materials from its prehistoric occupation. However, these artifactual materials (where tested) have been disturbed by construction activities in historic times, and thus, the integrity of the site has been compromised. Due to its lack of integrity, SCL-636 does not appear to be potentially eligible for inclusion in the National Register of Historic Places.

Response to Comment 32-59

The comment asks for clarification of hardbank amounts within the project area.

Refer to Responses to Comment 13-73 through 13-75.

Response to Comment 32-60

The comment asks for consistency in habitat designations between Table 5-4 and Chapter 4.

Table 5-4 is focused on major habitat categories and does not address the issue of whether non-natives occur in these habitats. The major habitat categories (Riparian Forest, Upland Landscaping, and Ruderal Herbaceous and Scrub) in Table 5-4 and Chapter 4 are the same and are considered useful for estimating system-wide conditions in the cumulative impact discussion.

Response to Comment 32-61

The comment states that impact numbers for overwater vegetation and undercut banks are inconsistent between Page 5-14, page 4.14-39 and Table 8-1 and that these should be corrected. In addition, the comment further states that cumulative impacts of vegetation loss *needs to be evaluated to determine whether potential temperature impacts would be significant.*

See Master Response H and the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 32-62

The area east of the Guadalupe River, west of the Pearl Avenue proposed extension, between Hillsdale Avenue and Blue Jay Drive, is designated as Medium Density Residential (8 DU/AC), and Medium High Density Residential (8-16 DU/AC) on the San Jose 2020 General Plan Land Use map. The area in question is proposed for development by the City. It is expected that development of this area would proceed whether or not the flood control project is implemented. The conclusions of the Draft EIR/EIS that the ultimate level of development in the project area would be the same with or without the project are deemed to be accurate.

Response to Comment 32-63

The comment references the Mitigation and Monitoring Plan (Table 8-1) and suggests that monitoring include soil moisture/groundwater conditions, tree and shrub height, species composition, and, where appropriate, tree diameter.

This comment is addressed in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

COMMENT LETTER 101 - UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICES, ECOLOGICAL SERVICES, SACRAMENTO FIELD OFFICE, WAYNE S. WHITE (MAY 2, 1997)

Response to Comment 101-1

The comment requests that the Corps-Regulatory Branch initiate consultation under Section 7 of the ESA for the red-legged frog.

Refer to Response to Comment 5-11. The Corps initiated informal consultation with the USFWS in August 1997 and submitted a biological assessment to the USFWS in January 1998. The USFWS, in a letter dated July 14, 1998 (see Appendix Y), concluded that the Corps' Upper Guadalupe River Flood Control Project is not likely to adversely affect the red-legged frog and that no further action pursuant to the Endangered Species Act is necessary.

Response to Comment 101-2

The comment states that the USFWS, in their Coordination Act Report for the Corps' Upper Guadalupe Flood Control Project, recommended more comprehensive application of bypass options, minimization of hardscape, additional information on soil and water availability at mitigation sites, and development of a mitigation and monitoring plan.

The Draft EIR/EIS analyzes additional bypass options in the MVI Alternative. The proposed maintenance plan includes a priority for biotechnical treatments with hardscape as a last resort (see also Responses to Comments 13-73 through 13-75). The mitigation and monitoring plan (Volume VIII) addresses soil and water availability issues.

Response to Comment 101-3

The comment states that there needs to be more available floodway width to provide for more vegetated river corridors and indicates concern that in Ross Creek herbaceous wetlands would be permanently impacted and mitigated off-site.

The Preferred Project and MVI Alternative are two feasible and practicable methods for increasing the floodway in certain reaches given the extent of urban encroachment in the area. Approximately 0.4 acres of wetlands will be impacted in Ross Creek by channel widening of the north bank to contain the one percent flow. The channel widening will be within 2 feet of the existing right-of-way and additional right-of-way is not available at this site. Therefore, mitigation must be provided off-site. The District also considered moving roads adjacent to Reaches 9-11, but found it not to be practicable. See Responses to Comments 32-15 and 32-18.

Response to Comment 101-4

The comment questions the suitability of Alamitos and Guadalupe Creeks for salmonids. It further states that effects of shade loss on water temperatures has not been evaluated.

See Master Response H and J.

Response to Comment 101-5

The comment states that there are uncertainties regarding the potential for mitigation success, the equivalence of impact and mitigation habitat, and the physical stability of some project features.

Success criteria for mitigation are summarized in Table 8-1 of the Draft EIR/EIS and are stipulated in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS). Mitigation for direct and indirect impacts on habitat in the project area is proposed to be located in the project area and every effort is made to provide for equivalent or higher habitat value, particularly with regard to the replacement of non-native plant species with native species. In like manner, every effort is made to increase bank stability through project alternatives that include minimizing impacts to the river bank and revegetating banks where they are affected.

Response to Comment 101-6

The comment states that the belief that the environmental impacts will be mitigated in full is predicated largely on the intent to construct those reaches with maximum avoidance (Reaches 6-8) and mitigation areas (Reaches 10B and 12) early in the 25-year construction period.

Reaches 10B, 6, and 12, which together contain 52 percent of all proposed riparian forest mitigation, but less than 4 percent of the project-wide riparian forest impact, would be the first reaches constructed in order to maximize the benefits of proposed riparian and SRA habitat mitigation. Reach 12 also contains 100 percent of the proposed wetland mitigation acreage. Therefore, the lag time between loss of habitat value and full compensation would be minimized. This is an approach to mitigation that has been recommended by both the USFWS and DFG. Full mitigation is predicated on such actions as providing 2:1 mitigation for lost riparian habitat. See also Responses to Comments 32-37, 32-41, 32-51, and 101-14.

Response to Comment 101-7

The comment states that the USFWS recommends denial of a permit for the project in its present form. A permit for Reaches 6-8, 10B, and 12 would be a possibility with the rest of the project to be considered following a re-evaluation of all the flood control options and success of the mitigation areas.

The Corps will consider potential project impacts, construction phasing, and permit timing in its evaluation of the 404(b)(1) permit application review process.

Response to Comment 101-8

The comment states that a full assessment of cumulative impacts should be provided including: a) total of existing hardbanking and additional hardbanking with the project and b) the impacts of the project and other recent and proposed projects on stream temperature and demonstration of mitigation for any adverse thermal impacts.

Refer to Response to Comment 13-73 through 13-75 regarding hardbanking. See Master Response H regarding thermal impacts.

Response to Comment 101-9

The comment requests that analysis be performed on channel widening sections in Reaches 9 and 10A to demonstrate that significant bank erosion on the bank slope edge would not occur.

The District has performed a hydraulic analysis and found that the channel velocities in Reaches 9 and 10A are between 4 and 5 feet per second at bankfull flow. At higher flows, such as 10-year flow, the highest we have experienced in 30 years, the velocities are between 5 and 6 feet per second. Therefore, the District anticipates that the revegetation areas on the depressed bench and the bank slope edge will be stable and does not expect any major erosion will occur.

Response to Comment 101-10

The comment states that the District should commit to limit maintenance of vegetation in the 25-foot corridor centered on the low-flow channel, including no pruning of overhanging branches where overstream shade falls below 50 percent or where pruning would cause overstream shade to fall below 50 percent and in no case should pruning be permitted at a height more than 10 feet above the Ordinary High Water.

Refer to Responses to Comments 2-41, 13-22, and 32-25. SRA plantings would be monitored to ensure that they achieved the minimum 50 percent shade goal assumed in the analysis and concurred with by USFWS.

Response to Comment 101-11

The comment addresses Reach 10B and requests evaluation of soils and groundwater, submission of hydrologic criteria for vegetation survival, assurance that mitigation will work in Reach 10B, and adoption of a longer monitoring period.

This information is provided in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

The comment also requests a commitment to water releases past Stream Gage 23b.

The District is proposing to move the stream gage to the downstream end of Reach 10B.

Response to Comment 101-12

The comment recommends that because the California red-legged frog has been recorded upstream of the project boundaries, the Corps should initiate section 7 consultation with the USFWS regarding potential impacts on the California red-legged frog and incorporate the resulting special conditions in any permit issued for the project.

Refer to Response to Comment 5-11. The Corps has initiated consultation with the USFWS. California red-legged frog surveys were conducted in 1997. The surveys followed the USFWS's red-legged frog protocols. No red-legged frogs were observed in the affected area. The USFWS, in a letter dated July 14, 1998 (see Appendix Y), concluded that the Corps' Upper Guadalupe River Flood Control Project is not likely to adversely affect the red-legged frog and that no further action pursuant to the Endangered Species Act is necessary.

Response to Comment 101-13

The comment states that the District should ensure that proposed mitigation areas do not overlap those of any other past or proposed project with particular reference to Reach 10B and the Downtown Guadalupe River Flood Control Project.

Reach 10B was originally proposed as a mitigation site for an adjacent development, but the applicant withdrew the proposal and the mitigation site was changed. Regarding the Downtown project, see Master Response F.

Response to Comment 101-14

The comment suggests criteria to ensure the full in-kind replacement of SRA cover values.

The EIR/EIS authors believe that the proposed revegetation plan will adequately replace SRA cover values lost as a result of project construction. Most of the vegetation to be removed under the Preferred Project would be on the middle to upper portions of the streambanks, thereby preserving the lower bank vegetation to the maximum extent feasible. By doing so, the District avoids impacts on SRA cover vegetation as much as possible. Riparian forest mitigation would generally occur along the lower and middle portions of the remaining streambanks. The EIR/EIS authors believe that there would be substantially fewer losses of habitat values compared to the Corps-proposed project evaluated by the USFWS because the District's proposed project would be constructed over a much longer time frame (e.g., 25 years) than the Corps project. In the first years of construction, the Preferred Project will focus on building the bypass in Reaches 6-8 (which has minimal impacts) and revegetating Reaches 10B and 12. This would give mitigation a head start before the more impacted reaches (e.g., Reaches 9 and 10A) are constructed. Monitoring to assess successful mitigation of SRA cover values is described in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 101-15

The comment states that a comprehensive mitigation and monitoring plan should be developed.

This comment is addressed in the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 101-16

The comment states that habitat mapping is based on mid-1980s surveys and calls for an updated survey of all wetland and riparian cover types, to be used for updating impacts and mitigation requirements.

The comment misrepresents the basis for habitat mapping. Acreage figures for all woody vegetation types are based on 1994 aerial photographs and field surveys conducted in 1994-95 to update earlier mapping. Wetlands and other waters of the United States were delineated according to the Corps' wetland delineation manual in 1996. This delineation was subsequently verified by the Corps, and wetland maps were included in Volume II of the Draft EIR/EIS. The reference in Volume II to 1984 aerial photographs applies only to the "river" habitat, which was not used for impact calculations in these maps, because the wetland delineation was much more accurate and much more recent.

The vegetation mapping provided in the Draft EIR/EIS, together with wetland delineation mapping, are recent enough and accurate enough to determine acreages of mitigation required. The mapping does not need to be updated.

Response to Comment 101-17

The comment states that a comprehensive fishery management plan should be prepared that provides adequate assurances of fish passage to and from proposed mitigation sites and requests that potential fish passage problems associated with Almaden Lake be addressed.

The majority of mitigation for fisheries impacts is on-site. Fish passage to the project area will be better than pre-project conditions because barriers on-site will be permanently fixed. Mitigation Measure F-2 includes providing fish passage at barriers on Guadalupe Creek. An analysis of fish passage to Guadalupe Creek has been conducted (Jones & Stokes Associates 1998) and the analysis indicates that passage conditions and accessibility of spawning habitat in Guadalupe Creek will generally be better for adult steelhead rather than for chinook salmon.

The median of the total number of days of passage in Guadalupe Creek was 83, 70, and 41 for threshold flows 5 cfs, 7 cfs, and 9 cfs, respectively. All of these numbers are greater than the median of the total number of days of passage (39) that could occur through the downtown San Jose area (i.e., at the USGS stream gage near St. John Street), which was the most restrictive Guadalupe River reach overall.

The overall number of days of passage in both the Guadalupe River and Guadalupe Creek is low. Passage can occur on only about 25-35 percent of the total number of days from September through April. Passage conditions are often extremely poor in fall and early winter (i.e., September through December), especially in Guadalupe Creek. Passage could occur in Guadalupe Creek during these months in only approximately 25 percent of the years 1973-1995.

See Master Response H, J, K, and L. See Response to Comment 29-13 regarding Almaden Lake.

Response to Comment 101-18

The comment suggests that in-channel construction not occur prior to June 1 unless average water temperatures have exceeded 68°F for three consecutive days and that no juvenile salmonids are present for seven days prior to construction.

In considering the potential for impacts on smolts, the EIR/EIS authors reviewed the scientific literature for water temperature requirements for smolts. Raleigh et al. (1986) states that for chinook salmon smolts average maximum temperatures should be below 64.5°F. This is warmer than the 59°F that is recommended for steelhead smolts (Raleigh et al. 1984). By using the higher of the two temperatures, the District is more conservative (i.e., more protective) in its evaluation of impacts on smolts. Because the temperature data show that water temperatures warm to levels above 64.5°F by early May, we feel that most smolts will have left the project area by this time. However, the Draft EIR/EIS has been modified to also require the installation and operation of a trap upstream of instream work occurring prior to June 1, to further ensure that impacts on any remaining downstream migrants are minimized. Please refer to Response to Comment 14-26.

COMMENT LETTER 102 - UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION IX, DANIEL MEER (MAY 1, 1997)

Response to Comment 102-1

The comment provides a summary of the proposed project and the existing setting along portions of the Guadalupe River corridor.

The summary of the project is accurate. Specific concerns are addressed below.

Response to Comment 102-2

The comment encourages avoidance of impacts and relates concerns for narrowing of the channel and its riparian corridor, particularly in areas with adjacent roadways and developments. It requests that the EIR/EIS demonstrate that it is not practicable to realign adjacent roadways. No specific location is specified. It also recommends that softer methods be used to provide for flood control on Ross and Canoas Creeks.

Examples of areas adjacent to roadways and development include Reaches 9, 10A, and 11. In Reach 9 and 10A, adjacent to Almaden Road, the MVI Alternative includes an earthen bypass channel west of the natural channel to avoid impacts to the channel. Another alternative that was considered was construction of a culvert bypass below Almaden Road; this would be more than double the cost of the Preferred Project and was not considered practicable. Reach 11 is adjacent to Almaden Expressway on the west and residential areas on the east. The MVI Alternative includes an earthen bypass constructed east of the natural channel to avoid impacts to the channel. Realigning Almaden Expressway was not feasible.

If the MVI Alternative is implemented in Reaches 9 and 10A, no in-channel work would be required on Canoas Creek, although 1.5-foot floodwalls would be constructed. In the case of Ross Creek, feasible alternatives are not available that would accommodate the one percent flood.

Response to Comment 102-3

The comment is concerned that the PN and Draft EIR/EIS lack an adequate assessment of direct, secondary, and cumulative impacts and references comments on the Draft EIR/EIS regarding the affects of armoring of banks and the affects of removing SRA habitat.

Refer to Responses to Comment 3-7 through 3-9, and 3-13. See also Master Response H.

Response to Comment 102-4

The comment states that the affects of the project on bank stability are unclear and asks for an accurate assessment of past and future bank protection methods.

The Preferred Project and MVI Alternative have been specifically designed to reduce in-channel peak flood flow velocities where feasible, allow for bank vegetation, and thereby reduce erosion potential. Regarding bank protection methods, refer to Response to Comment 13-73 through 13-75 and 32-8.

Response to Comment 102-5

The comment states that the impacts mentioned in Comment 102-3 and 102-4 need to be quantified to fully evaluate the secondary effects of the project on the aquatic ecosystem.

Refer to Responses to Comment 102-3 and 102-4.

Response to Comment 102-6

The comment states a concern about the potential of successful mitigation. It states that riparian and SRA habitat impacts and mitigation measures need to be treated independently, without double counting. It is concerned about the potential delay of some mitigation until the end of the 25-year construction period and concludes that the proposed mitigation ratio of 1:1 for lost riparian habitat is inadequate.

For a discussion of riparian and SRA habitat impacts and mitigation measures, refer to Response to Comment 2-2.

For a discussion of scheduling of mitigation, refer to Responses to Comments 29-15 and 29-16, and 101-6. Even with substantial up-front riparian mitigation, riparian habitat is proposed in the Draft EIR/EIS to be mitigated at a 2:1 ratio.

Response to Comment 102-7

The comment states that the applicant has not prepared a mitigation and monitoring plan for review and approval.

The Mitigation Monitoring Plan for the Upper Guadalupe River Flood Control Projects is contained in Volume I of the Draft EIR/EIS in Chapter 8. In addition, see the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS).

Response to Comment 102-8

The comment states that there is lack of adequate demonstration that increased avoidance is not practicable; there are uncertainties and gaps in the impact analysis; and proposed mitigation does not adequately offset impacts.

Refer to Responses to Comments 102-2 through 102-7.

Response to Comment 102-9

The comment recommends denial of a 404 Permit for the project.

Refer to Response to Comment 101-7.

COMMENT LETTER 103 - FRIENDS OF THE GUADALUPE, THE SILICON VALLEY CHAPTER OF URBAN CREEKS COUNCIL, DONNA BERNARDI (APRIL 23, 1997)

Response to Comment 103-1

The comment requests an analysis of the Stream Restoration Alternative.

See Master Response A.

Response to Comment 103-2

The comment states that the Draft EIR/EIS fails to address cumulative impacts, cost of maintenance, increased herbicide use, aquatic resources such as steelhead and salmon, and SRA habitat loss.

a) For a discussion of cumulative impacts, see Chapter 5 of the Draft EIR/EIS, Master Response L, and Response to Comment 2-4.

b) For a discussion of maintenance costs, see Appendix C of the Draft EIR/EIS and Master Response D.

c) For a discussion of herbicide use, see Master Response C and Responses to Comments 3-15 and 3-16.

d) For a discussion of aquatic resources, see Chapter 4.14 of the Draft EIR/EIS and Master Responses J, K, and L.

e) For a discussion of SRA habitat, see Chapter 4.14 of the Draft EIR/EIS and Response to Comment 2-2, 2-3, and 24-17.

Response to Comment 103-3

The comment states that no new 404 permits should be granted until the Downtown project is brought into compliance with its permit.

Refer to Response to Comment 101-7.

Response to Comment 103-4

The comment requests that the EIR/EIS stipulate that prior to initiation of construction, the Integrated Vegetation Mitigation Plan (Mitigation Measure V-1), the Vegetation Protection Plan for Riparian and Urban Forests (Mitigation Measure V-2), and the Guadalupe Fisheries Management Plan must be completed and approved by RWQCB, DFG, USFWS, and NMFS.

The mitigation and monitoring plan is included in the Final EIR/EIS (Volume VIII) for review and comment by cooperating agencies prior to initiation of construction. The Vegetation Protection Plan for Riparian and Urban Forests would be prepared prior to initiation of construction in each reach and provided to cooperating agencies for review and comment. The Guadalupe Fisheries Management Plan is presently under preparation by the District; refer to Response to Comment 10-33 for further information.

Response to Comment 103-5

The comment states that the Corps' environmental compliance for the Downtown project is outdated because of lack of consideration of steelhead trout, chinook salmon, and southwestern pond turtle.

The Corps is presently preparing an updated Mitigation and Monitoring Plan for the Downtown project that addresses these concerns. In reference to the Upper project, see Chapter 4.14 for a discussion of fisheries resources and Response to Comment 13-41 for a discussion of pond turtles.

Response to Comment 103-6

The comment states the belief that the District is under legal obligation, pursuant to Section 5901 of the Fish and Game Code, to remove all barriers to fish passage on streams.

Refer to Response to Comment 13-2.

COMMENT LETTER 104 - STATE OF CALIFORNIA, DEPARTMENT OF FISH AND GAME, BRIAN HUNTER (APRIL 23, 1997)

Response to Comment 104-1

The comment references comments on the Draft EIR/EIS provided to the Santa Clara Valley Water District.

Refer to the California Department of Fish and Game Comment Letter 5, and Responses to Comments 5-1 through 5-19).

COMMENT LETTER 105 - GUADALUPE - COYOTE RESOURCE CONSERVATION DISTRICT, NANCY BERNARDI (APRIL 21, 1997)

Response to Comment 105-1 to 105-3

The comment requests clarification on the estimated average annual cost of $20.6 million flood damage and the total flood damage of $280 million at 100-year flood event.

Refer to Response to Comment 14-86. The estimated total flood damage cost does not include erosion repair, maintenance, flood insurance or flood proofing. It is an estimate of flood damage to structures, contents and automobiles.

Response to Comment 105-4

The comment claims that the probability presented in the cumulative risk section is flawed.

Refer to Response to Comment 14-44.

Response to Comment 105-5

The comment disagrees that maintenance procedures, especially herbicide use and sediment removal, will decrease under the Preferred Project.

See Master Response C.

Response to Comment 105-6

The comment states that increased vegetation removal will result in increased water temperatures. It points out that in Reaches 9, 10A, 11B, and 11C runoff pollution will enter the river with little of no vegetative filtration because of the removal of riparian vegetation and that the use of herbicides needs to be addressed. The comment also states that Reach 11 shows a widened channel with no defined low-flow corridor.

For a discussion of thermal effects, see Master Response H. For a discussion of herbicide use, see Master Response C and Response to Comment 3-15 and 3-16. In Reaches 9, 10A, 11B, and 11C a total of 5.27 acres of riparian habitat is impacted by the Preferred Project and a total of 4.18 acres of riparian habitat is replanted as mitigation. Runoff filtration will continue to be provided in all the specified reaches with an increase in riparian habitat filtration in Reaches 11B and 11C.

Vortex rock weirs would be constructed in Reaches 9, 10, and 11 to provide in-stream cover and to maintain a low width-to-depth ratio in the low-flow corridor.

Response to Comment 105-7

The comment states that the proposed design in Reach 12 will cause temperatures to reach unacceptable levels for salmonids.

The EIR/EIS authors disagree. Under the Preferred Project, Reach 12 would be modified only to the extent that vegetation could be planted along its banks. This work is not expected to have a significant adverse impact on water temperatures in Reach 12, which currently experiences very warm water temperatures during late-spring, summer, and fall because of wide, shallow flow. Because revegetation will result in some additional stream shading, the project is expected to have somewhat of a cooling effect on existing water temperatures, which could only be a benefit to coldwater fish species. See Master Response H.

Response to Comment 105-8

The comment expresses doubts about the workability of the bypass channel design, referring to the Downtown Project as an example.

Refer to Response to Comment 13-2.

Response to Comment 105-9

The comment states that Canoas and Ross Creeks need to be described in terms of sediment transfer to the Guadalupe River. Furthermore, it states that these creeks were excluded from wildlife surveys.

Regarding sediment issues, see Master Response E.

The fisheries section included information regarding fish use in these two creeks. Because it is felt by the resource agencies that these streams presently offer little, if any, value to fish the District will be discouraging fish migration into them. Because of their presently degraded condition, no impacts on fish are expected from project implementation. See Master Response D.

Reconnaissance-level surveys were conducted of the creeks. Refer to Response to Comment 14-66.

Response to Comment 105-10

The comment states that the Stream Restoration Alternative is the environmentally superior alternative and should not be eliminated.

See Master Response A.

Response to Comment 105-11

The comment states that the vegetation maintenance program needs to be clarified and that the Preferred Project will increase thermal impacts.

See Master Response C and H and Responses to Comments 13-23 and 13-55.

Response to Comment 105-12

The comment states that herbicide use and sedimentation will increase and will significantly decrease water quality.

See Master Response C and Responses to Comments 3-15, and 3-16.

Response to Comment 105-13

The comment states that the District is already legally obligated to remove fish barriers under Section 5901 of the Fish and Game Code and therefore should not be proposing their removal as mitigation for the Upper Guadalupe River FCP.

Refer to Response to Comment 10-32.

Response to Comment 105-14

The comment states that the District should complete the Guadalupe River Fisheries Management Plan that is required as part of the Settlement Agreement and that the Draft EIR/EIS should include a discussion of this plan. Furthermore, it states that it is inappropriate to include laddering of the gabion structure on Alamitos Creek since this is part of the mitigation package for the Downtown project.

The Guadalupe River Fisheries Management Plan is a requirement of the Settlement Agreement and is being developed by the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE). Impacts on fisheries from project implementation have been evaluated in the Draft EIR/EIS and appropriate protective and mitigation measures have been incorporated to ensure the continued viability of the fisheries resources of the Guadalupe River. See Response to Comment 10-33.

With respect to laddering the barrier on Alamitos Creek, the commenter is referred to Master Response F.

Response to Comment 105-15

The comment states that it is unclear how the project will affect non-contact water recreation.

Refer to Responses to Comments 13-31 and 14-64.

Response to Comment 105-16

The comment states that a 404 permit should not be issued until the Stream Restoration Alternative is fully analyzed, cumulative impacts caused by the airport expansion and Highway 87 are analyzed, and the Final EIR/EIS is approved.

See Master Response A. The airport expansion plan and Highway 87 are addressed in Chapter 5 of the Draft EIR/EIS. Proper fuel storage at the airport would not be expected to affect water quality in the Guadalupe River.

COMMENT LETTER 106 - CANOAS GARDEN NEIGHBORHOOD ASSOCIATION, DAVID F. BOUTCHER (APRIL 18, 1997)

Response to Comment 106-1

The comment states that maintenance is a big factor in solving flood problems.

Refer to Response to Comment 16-1.

Response to Comment 106-2

The comment requests that the proposed project solve the back flow problems in the Canoas Creek neighborhood.

Refer to Response to Comment 16-2.

COMMENT LETTER 107 - LIBBY LUCAS (APRIL 23, 1997)

Response to Comment 107-1

The comment states that there are aspects of the flood control project that are not in compliance with the mandate to avoid impacts to wetlands and waters of the U.S.

The Preferred Project and MVI Alternative represent alternatives that minimize impacts to wetlands wherever feasible. See also Response to Comment 2-13.

Response to Comment 107-2

The comment states that the fisheries impacts are improperly addressed and that they are impossible to avoid given the project as it is currently planned.

The EIR/EIS authors disagree. The Draft EIR/EIS carefully considers all impacts on fish and their habitat that may occur as a result of the proposed project. Furthermore, the Draft EIR/EIS recommends appropriate protective and mitigation measures to offset those effects that are determined to be significant.

Response to Comment 107-3

The comment states that thermal impacts are not adequately addressed.

See Master Response H.

Response to Comment 107-4

The comment requests that the upper Guadalupe River watershed be included in the environmental assessment because mitigation is planned on the tributary streams. The comment goes on to further state that there is no biological data to support using the tributaries for mitigation.

In the EIR/EIS the ecological significance of the project area is evaluated in the impact analyses. With respect to fish, the existing barriers have largely isolated the aquatic habitats in the project area from the upper watershed. With that in mind, the District is proposing in its mitigation package, to reconnect the project area's aquatic habitats to the upper watershed.

With respect to the suitability of the tributaries for fish, please see Master Response J.

Response to Comment 107-5

The comment states that the Preferred Project limits the access to the river for water recreation.

Refer to Responses to Comments 13-31 and 14-64.

Response to Comment 107-6

The comment states that the use of fencing is in violation of Public Resource Code 6301 and Civil Code Section 803 as it restricts the public and wildlife use of the river.

Refer to Responses to Comments 13-32 and 14-63.

Response to Comment 107-7

The comment protests that the maintenance road is proposed to be located on the floodway and therefore requires removal of shaded riverine aquatic habitat.

Refer to Response to Comment 13-19.

Response to Comment 107-8

The comment requests that volume and management of imported water to the Guadalupe River be studied.

Refer to Response to Comment 30-14.

Response to Comment 107-9

The comment disagrees with the total of 1.85 acres of wetlands impacted by the Preferred Project, the total of 10.16 acres of waters of the U.S., and the tree count.

The analysis of wetlands was verified by the Corps. Refer to Response to Comment 101-16. Regarding the tree inventory, refer to Response to Comment 14-65.

Response to Comment 107-10

The comment requests that Los Gatos Creek be included as part of the environmental review of the EIR/EIS. The comment concerns the impact of imported water on the 100-year flow. The comment states that the proposed step pool fish ladder should not be referenced in the project description.

The EIR/EIS authors disagree. The information on Los Gatos Creek included in the report is sufficient. The proposed project has no impact in Los Gatos Creek. Refer to Response to Comment 30-14 for a discussion of imported water impacts on the 100-year flood flow. Refer to Response to Comment 29-12 regarding the fish ladder.

Response to Comment 107-11

The comment states the belief that maintenance roads are not needed and that the proposed project will not improve biotic resources.

Refer to Response to Comment 10-18 regarding maintenance roads. The impacts to the environment due to the proposed project were analyzed and the project benefits, such as establishing continuous fish passage, continuous riparian corridor canopy and others, were documented in Chapter 3 of the EIR/EIS.

Response to Comment 107-12

The comment states that the 25-year construction period is too long, the May 1-October 15 construction period inappropriate because of fisheries, and there is inadequate information regarding the characteristics of the upstream tributaries regarding fish.

The 25-year construction period is very long, but is dictated by funding. This schedule will allow time for establishment of mitigation plantings prior to impacts and will focus construction in one or two reaches only during each construction season. Regarding the allowable construction period, refer to Response to Comment 13-53. Regarding the upstream tributaries, see Master Response J.

Response to Comment 107-13

The comment suggests that brown trout be removed from the tributary streams and Almaden Lake if fish passage to the tributary streams is allowed.

To our knowledge, brown trout do not exist in the watershed. However, if they do exist, their abundance is probably very low since they have not been captured during past surveys of the aquatic habitats. The commenter raises a good point about the presence of predatory fishes in the system. These species (e.g., largemouth bass, green sunfish) do prey on fish, including juvenile chinook salmon and steelhead. Because the middle and upper reaches of the tributary streams are much cooler and have faster water velocities due to the steeper gradient compared with the Guadalupe River, these streams are less suitable for introduced predatory species. This is one reason why the middle and upper reaches of the tributary streams are more suitable for salmonids.

Response to Comment 107-14

The comment questions whether Alamitos Creek is appropriate for steelhead.

Please see Master Response J.

Response to Comment 107-15

The comment recommends that flow augmentation occur to ensure the success of restoration efforts on Alamitos and Guadalupe Creeks.

The proposed mitigation plan for the Upper Guadalupe River Flood Control Project does not include any revegetation on the tributary streams.

Response to Comment 107-16

The comment requests evaluation of the old Almaden Quicksilver Mine's potential affect on water quality in the upper tributaries.

Refer to Response to Comment 30-10.

Response to Comment 107-17

The comment questions the thermal suitability of Alamitos and Guadalupe Creeks for salmonids.

Please see Master Responses H and J.

Response to Comment 107-18

The comment states that Almaden Lake and the District's percolation ponds are the source of thermal pollution and questions the fishery potential and riparian integrity of Reach 13.

Please see Master Response H.

Response to Comment 107-19

The comment requests that Ross and Canoas Creeks should also be included in the assessment of any wetlands and vegetation removal.

No SRA cover would be affected on Canoas and Ross Creeks because these channels presently do not support any riparian vegetation in the affected reaches.

Response to Comment 107-20

The comment expresses concern about use of herbicides to maintain new roads and access ramps, and the potential effect on wildlife.

Although herbicide use is necessary for maintenance of new roads and access ramps, herbicide use within the channel for maintenance would decrease. Use of herbicides is not expected to adversely affect wildlife or public health. Refer also to Master Response C and Responses to Comments 3-15, 5-15, and 30-21.

Response to Comment 107-21

The comment addresses projects that should be added to the cumulative impact section, including Woz Way; pedestrian bridges; Confluence Point bridges; bank contouring; and hardscaping for Lincoln Towers, Adobe Systems, IBM Headquarters, Childrens Discovery Museum.

Refer to Responses to Comments 13-73 through 13-75.

COMMENT LETTER 108 - WESTERN WATERS CANOE CLUB, LAWRENCE M. JOHMANN (APRIL 23, 1997)

Response to Comment 108-1

The comment states that the 404 permit application is premature and that the EIR/EIS needs to finalized before a project alternative is selected.

It was necessary to complete a 404 Permit application to initiate the U.S. Army Corps of Engineers (Corps) involvement as lead agency under the National Environmental Policy Act (NEPA). This was appropriate because it enabled the Corps and District to jointly prepare an EIR/EIS to meet the requirements of both CEQA and NEPA. If the District had not submitted a 404 permit to the Corps at this point in time, but had waited until the completion of the EIR, the Corps would then have had to initiate a separate NEPA process to address the permit action. If an alternative other than the Preferred Project is selected, or if the Preferred Project is modified, based on the Final EIR/EIS, a revised 404 Permit would have to be submitted. A 404 Permit for the Preferred Project would not be applicable for a different project.

Response to Comment 108-2

The comment states that the Draft EIR/EIS fails to adequately address the Stream Restoration Alternative.

See Master Response A.

Response to Comment 108-3

The comment states that the Draft EIR/EIS is not acceptable per comments provided previously.

See Comment Letter 13 and responses.

Response to Comment 108-4

The comment states that the EIR does not address water recreation, navigation, property value impacts, and conservation of riparian, wild and aquatic resources.

The issue of water recreation is addressed in Responses to Comments 3-1, 13-31, and 13-64. The issue of navigation of the River is addresses in Response to Comment 14-64. Property values are discussed in Response to Comment 13-33. Impacts to riparian habitat, wildlife, and aquatic resources are addressed in the Draft EIR/EIS in Chapters 4.12 (Vegetation), 4.13 (Wildlife), and 4. 14 (Fisheries).

Response to Comment 108-5

The comment states that the 404 permit should not be issued for this project until the Downtown and Lower Guadalupe River Projects are brought into compliance with their permits.

The EIR/EIS authors disagree. Refer to Response to Comment 13-2. As stated in Chapter 3 of the EIR/EIS, this project will provide environmental benefits to biotic habitat.

Response to Comment 108-6

The comment requests that the Draft EIR/EIS address reports of Coho salmon in the project area and the occurrence of southwestern pond turtles.

Regarding Coho salmon, refer to Response to Comment 13-44.

Regarding the pond turtle, refer to Response to Comment 13-41.

COMMENT LETTER 109 - LIFEWEB, RICK BERNARDI (APRIL 23, 1997)

Response to Comment 109-1

The comment states that a 404 permit should not be issued until Lifeweb's previous comments are addressed and the Final EIR/EIS has been approved. The comment also requests that the Stream Restoration Alternative be addressed in the Final EIR/EIS.

See Comment Letter 14 and Master Response A.

COMMENT LETTER 110 - VERNON D. TRIPP (APRIL 18, 1997)

Response to Comment 110-1

The comment asks about the difference between existing channel capacity and the proposed channel capacity.

The existing channel capacity varies from 20-year to 50-year flood flow, and the proposed project will increase the channel capacity to 100-year flood flow.

Response to Comment 110-2

The comment asks why the bypass channel is the Preferred Project.

Refer to Response to Comment 28-1.

COMMENT LETTER 111 - JOHN BEALL (APRIL 24, 1997)

Response to Comments 111-1 and 111-2

The comment expresses concerns about the plans for maintenance of the constructed channel below ordinary high water level and asks when the EIR for the Vegetation Management Plan will be out for public review.

The maintenance program for the proposed project is included in Appendix C of the EIR/EIS. The proposed project as designed is expected to require less maintenance than is currently required.

The EIR for the Vegetation Management Plan is anticipated to be available for public review in 2000. The commenter is encouraged to comment on the Vegetation Management Plan when it is circulated for public review.

Response to Comment 111-3

The comment asks how the proposed project will address the impacts of human use of the river including homeless individuals living along the river banks.

The proposed project has features such as additional fencing, signage, ground cover and others to discourage human encroachment and to provide protection to the riparian corridor habitat. The District has ongoing programs designed to discourage inappropriate use of the river corridor, which can degrade water quality. Beyond the measures included in the project to protect the riparian corridor, it is beyond the scope of this flood control project to address human misuse of the river.

Response to Comment 111-4

The comment recommends that an independent monitor be hired to educate and watch construction crews while they are working in sensitive area.

The EIR/EIS authors appreciate the recommendation. The EIR/EIS has identified a specific precautionary plan in Mitigation Measure V-2 to protect vegetation that does not need to be removed during project construction from inadvertent damage.

Response to Comment 111-5

The comment states that the construction schedule could affect fish resources.

Refer to Response to Comment 13-53 and Master Response K.

Response to Comment 111-6

The comment is worried about the public safety aspect of having trails next to the channel.

The proposed trail system is proposed by the City of San Jose and is not within the jurisdiction of the District. The commenter is referred to the City. Also refer to Response to Comment 23-6.

Response to Comment 111-7

The comment asks if increasing the size of upstream reservoirs has been studied.

Upstream storage alternatives were studied but were found not feasible. The results of the study were included in Chapter 3 of the Engineer's Report.

Response to Comment 111-8

The comment states the belief that a mix of traditional flood control and Rosgen's methods would not work.

The EIR/EIS authors believe there are a variety of solutions to most problems, each with their own advantages and disadvantages. Many work well together and can be mixed. Many of the Rosgen concepts have been incorporated into the project design and maintenance program where possible.

COMMENT LETTER 112 - DIVISION OF LOCAL ASSISTANCE, DEPARTMENT OF WATER RESOURCES, NADELL GAYOU (APRIL 23, 1997)

Response to Comment 112-1

The comment documents distribution of Public Notice to state agencies, and lists three with no response (Department of Boating and Waterways, Department of Fish and Game, and San Francisco Bay Regional Water Quality Control Board) and two who indicated no comment on the Public Notice (Department of Parks and Recreation and State Lands Commission).

The California Department of Fish and Game elected to send comments directly to the Santa Clara Valley Water District and U.S. Army Corps of Engineers. Comments on the Draft EIR/EIS were received on 17 April 1997; refer to Comment Letter 5. Comments on the Public Notice were received on 23 April 1997. The U.S. Army Corps of Engineers appreciates the assistance of the Department of Water Resources in distribution of the Public Notice.

PUBLIC HEARING COMMENT 200 - TOM FLETCHER, CITY OF SAN JOSE PUBLIC WORKS (APRIL 3, 1997)

Response to Comment 200-1

The comment reiterates that City staff is working cooperatively with the Santa Clara Valley Water District on design and planning of this project.

The Santa Clara Valley Water District appreciates the cooperation of the City of San Jose.

PUBLIC HEARING COMMENT 201 - JUDITH LAGALANTE (APRIL 3, 1997)

Response to Comment 201-1

The comment is pleased with the proposed project and recommends that the City provide recreation along the Guadalupe River.

The EIR/EIS authors appreciate the comment. The City of San Jose does have a park and trail master plan for the Guadalupe River. The proposed project was designed in coordination with the City's park and recreation department such that future implementation of the park and trail master plan for 6 miles from Alamitos Creek to Downtown San Jose would be feasible. Most of the proposed ramps into the continuous maintenance roads where designed to conform to standards of the Americans with Disabilities Act, specifically to meet the trail needs.

PUBLIC HEARING COMMENT 202 - ROBERT LONG (APRIL 3, 1997)

Response to Comment 202-1

The comment asks why debris such as shopping carts and sofas are not removed from the creek.

The first priority of the District's maintenance program is to perform activities that will provide flood protection to the public. Usually, debris such as shopping carts will be removed only when they pose a flood threat to the public. The District sponsors an Adopt-A-Creek Program to encourage organized community groups to promote creek clean ups. Much of the creek is privately owned. With completion of the project Adopt-A-Creek, activities could be more inclusive.

PUBLIC HEARING COMMENT 203 - KATHIE LONG (APRIL 3, 1997)

Response to Comment 203-1

The comment asks; if there will be access for walking from Blossom River Drive; if there will be lighting; if there will be security; and if the gates will be locked.

These comments were also submitted in writing. Refer to Responses to Comments 23-6 through 23-10.

PUBLIC HEARING COMMENT 204 - ANDREW BENKERT (APRIL 3, 1997)

Response to Comment 204-1

The comment suggests that instead of creating bypass channels, the project should extend the levees.

The levee and floodwall alternatives were studied but were found not feasible. The results of the study were included in Chapter 3 of the Engineer's Report.

PUBLIC HEARING COMMENT 205 - MARK PROTSIK (APRIL 3, 1997)

Response to Comment 205-1

The comment expresses concern that interim impacts during construction could temporarily exacerbate either the flood situation or injure habitat downstream. The comment requests that the natural stream to remain the primary channel. The comment also asks that debris such as garbage be removed as part of the regular maintenance activities.

Construction schedules are staged such that the proposed construction would not induce flooding upstream or downstream. Construction activities will be coordinated with the cities and other agencies to keep disruption to traffic and other public services to a minimal.

The proposed bypass channel is designed such that low flows would continue in the natural channel. The bypass channel would function only during high flows.

Refer to Response to Comment 202-1 regarding on debris removal.

PUBLIC HEARING COMMENT 206 - ALLEN ARONSON (APRIL 3, 1997)

Response to Comment 206-1

The comment states that concerns were covered by previous speakers.

Responses to previous speakers' comments are presented above.

PUBLIC HEARING COMMENT 207 - KEVIN DAVID (APRIL 3, 1997)

Response to Comment 207-1

The comment asks for information on the date the study began; who requested it; total amount spent to date; and total cost of the study. The comment asks if the money spent on the study included the purchase of homes on Mackey Avenue, and expressed concern that county taxes were being used to purchase taxpayers' homes and evict residents. The comment expresses concern that the District was spending money to buy properties without an approval.

The study for the upper Guadalupe River began in the mid-80s. The entire Guadalupe River had been part of an earlier Corps of Engineers study for some time and in the early 80s this particular area was dropped from the study, at which time the District took it over. The total amount spent to date on the project is approximately $35 million including properties acquired to date and the cost-sharing study with the Corps of Engineers. The District Board of Directors has established a voluntary acquisition program for the area. If the owner wishes to sell the home, the District will offer to purchase it. The program was instituted because the District knew that the project would require acquisition of many homes and it would reduce the burden on the District as well as disruption to the homeowners in terms of immediate acquisition. Funding has come from the District's share of property taxes and from assessments.

Response to Comment 207-2

The comment asks if the District is using insider trading to buy homes and asks what is done with the money collected from the District-owned properties.

The EIR/EIS authors do not understand the use of the term "insider trading" in reference to property acquisition. The money collected from the District-owned rental properties is returned to the Central Zone's fund to be used for District programs.

Response to Comment 207-3

The comment asks why the Mackey Avenue neighborhood was the prime candidate for the bypass channel, and why houses were being bought just to reduce the chances of flooding, rather than eliminate flooding.

The bypass channels were appropriate in areas where the channel is most inadequate and where bypasses would avoid disturbing the existing creek. The District is attempting to avoid the impact to the very well-developed riparian habitat in the corridor adjacent to Mackey Avenue and yet provide adequate capacity to the channel.

The proposed project would reduce the risk of flooding but would not eliminate all flooding because there could always be a flood greater than the 100-year flood.

PUBLIC HEARING COMMENT 208 - FRANK CUCUZZA (APRIL 3, 1997)

Response to Comment 208-1

The comment asks when the vegetation will return to the area and expresses concern that vegetation cannot be established in gabions. The comment recommends using geogrid materials instead.

The expectation is that much of the riparian system would reach the point where it would provide complete shade over the stream in a 30-40 year period. There would also be significant cover in less than 10 years. A similar District project involving gabions has produced wildlife values, which are already 60 percent of a mature habitat, in less than 10 years. It is the goal of the District to plant quick-growing species, and planting first in areas that do not presently have riparian vegetation, therefore filling in the riparian corridor gaps. Riparian vegetation is not proposed to be planted in areas where gabions are proposed. Biotechnical approaches such as geogrid will be considered in areas where it is feasible.

PUBLIC HEARING COMMENT 209 - RUSS ROBINSON (APRIL 3, 1997)

Response to Comment 209-1

The comment compliments the District in attempting to mitigate wherever possible and move the project along. The comment urges the District to accelerate the project schedule.

The District appreciates the comment and is working towards providing flood protection to the community as soon as possible. Also Refer to Response to Comment 29-7.

PUBLIC HEARING COMMENT 210 - KARL LAUCHER (APRIL 3, 1997)

Response to Comment 210-1

The comment expresses disappointment that the developers and the City Council members were allowing houses to be built up to the edges of the creeks.

The EIR/EIS authors sympathize with the commenter's viewpoint but note that many of these homes were allowed in a different era with different City policies and community attitudes toward creeks. The District is working with the City to protect the remaining riparian corridor and discourage new developments from encroaching into natural streams.

Response to Comment 210-2

The comment states that a 25-year construction schedule is not acceptable.

Refer to Response to Comment 29-7.

PUBLIC HEARING COMMENT 211 - ROGER CASTILLO (APRIL 3, 1997)

Response to Comments 211-1 and 211-2

The comment expresses doubts about the workability of the proposed project, referring to the Downtown Project as an example.

Refer to Response to Comment 13-2.

PUBLIC HEARING COMMENT 212 - NANCY BERNARDI (APRIL 3, 1997)

Response to Comment 212-1

The comment concurs with the previous comment.

Refer to Response to Comment 13-2.

Response to Comment 212-2

The comment request an analysis of the Stream Restoration Alternative.

Refer to Master Response A.

PUBLIC HEARING COMMENT 213 - MARC VOORHOEVE (APRIL 3, 1997)

Response to Comment 213-1

The comment expresses concerns that steepening the east bank in Reach 10A would hinder residents from crossing the creek from the east bank to the back yard of their homes on the west bank. The comment asks if the ramps to the trail will be locked at night. The comment requests that the project be accelerated.

The District would not encourage residents to cross the creek as a short cut to their homes for safety reasons. Refer to Response to Comment 23-6 regarding issues of trail access. Refer to Response to Comment 29-7 regarding the construction schedule.

PUBLIC HEARING COMMENT 214 - LARRY AMES (APRIL 3, 1997)

Response to Comment 214-1

The comment expresses support for the project design and is pleased that the project is sensitive to the environment. The comment urges that the District build a trail and work with the County and City to create as much public open space in the area as possible.

The District appreciates the comment. The District does not have the mission to construct the trail but is proposing to construct maintenance roads that would support future implementation of the trail by the City and County. The District is working together with the cities and County in creating as much open space as possible. Refer to Response to Comment 201-1.

PUBLIC HEARING COMMENT 215 - BOBBIE PAUL (APRIL 3, 1997)

Response to Comment 215-1

The comment asks why east bank widening is the Preferred Project in the Reach11A, instead of widening both banks.

This comment was also submitted in writing. Refer to Responses to Comments 15-2 and 15-3.

Response to Comment 215-2

The comment asks if neighborhood plantings are allowed.

The District has an adopt-a-creek program which community groups can participate in and neighborhood plantings are allowed wherever feasible. Refer to Response to Comment 202-1.

PUBLIC HEARING COMMENT 216 - LOUIS ZARATE (APRIL 3, 1997)

Response to Comment 216-1

The comment suggests that a glossary of terms be included in the report.

The EIR/EIS authors regret that the commenter did not find the glossary section of the report. The glossary section is included in Chapter 12 of the report.

Response to Comment 216-2

The comment notes that the report was not printed in Spanish.

The District would be glad to meet with Spanish speaking residents to explain the proposed project, the reports or any concerns.

Response to Comment 216-3

The comment notes that there were several residents in Reach 6 who did not know if their homes would be required for the project.

The District has tried to notify all property owners affected by the proposed project, and a public meeting was held in April 1990 specifically to discuss the voluntary relocation program. The District believes all properties required for the project were contacted. Property owners that have not been contacted by the District are likely not required for the project. However, the District always encourages any homeowners to call the District Real Estate Unit if they have any questions.

Response to Comment 216-4

The comment asks what was being dumped in the vacant lots in Reach 6.

The materials placed in the vacant lots were for the emergency bank stability work downstream of Virginia Street.

Response to Comment 216-5

The comment asks for information about the erosion repair work downstream of Virginia Street.

The District has provided a temporary solution to the emergency bank stability problem downstream of Virginia street. This proposed project will address the long-term solution, which is providing a bypass channel parallel to the existing natural channel to the east.

Response to Comment 216-6

The comment expresses concern about the choice of fencing to be placed along the proposed bypass channel.

During the design phase of the project, the District will be meeting with the residents in the neighborhood to discuss fencing and other concerns.

Response to Comment 216-7

The comment asks if the report addresses the impacts due to construction activities.

The EIR/EIS does address impacts due to construction activities, which are included in Chapter 4 of the report.

PUBLIC HEARING COMMENT 217 - TOM BORDEN (APRIL 3, 1997)

Response to Comment 217-1

The comment asked if the vegetation planting would begin early enough so that the vegetation would be strong to survive high flows.

The EIR/EIS authors agree that establishment of vegetation is an important concern. The proposed project includes planting vegetation as early as possible.

PUBLIC HEARING COMMENT 218 - LARRY JOHMANN (APRIL 3, 1997)

Response to Comment 218-1

The comment asks why there is no mention of Rivers and Harbor Act in the report; why recreational use is not addressed; why the Stream Restoration Alternative is not addressed; why the removal of concrete rubble is not addressed; why maintenance cost is not addressed; and why this project would work if Downtown project does not.

Refer to Response to Comment 10-28 regarding the Rivers and Harbor Act.

Refer to Response to Comment 13-31 regarding recreational usage.

Refer to Master Response A regarding evaluation of the Stream Restoration Alternative.

Refer to Response to Comment 13-65 regarding concrete rubble removal.

Refer to Responses to Comments 10-4 and 13-2 regarding maintenance cost.

Refer to Response to Comment 13-2 regarding the Downtown Project.

Response to Comment 218-2

The comment asks why fish barriers were not removed as promised in a September 1995 report.

Refer to Response to Comment 13-11 regarding removal of fish barriers.

PUBLIC HEARING COMMENT 219 - JON OAKES (APRIL 3, 1997)

Response to Comment 219-1

The comment asks what is proposed upstream of Willow Glen Way Bridge.

The proposed project is to widen the channel on the east bank onto the San Jose Water Company property. The west bank will remain as existing.

PUBLIC HEARING COMMENT 220 - DAVID BOUTCHER (APRIL 3, 1997)

Response to Comment 220-1

The comment asks if the proposed project would remove properties out of the floodplain and whether the project will increase mercury contamination.

One of the objectives of the proposed project is to remove the 100-year flood threat from properties in the floodplain of the upper Guadalupe River.

Refer to Response to Comment 5-18 regarding mercury contamination.

PUBLIC HEARING COMMENT 221 - RICK BERNARDI (APRIL 3, 1997)

Response to Comment 221-1

The comment states that the Draft EIR/EIS is focused too much on the Preferred Project and that the Stream Restoration Alternative needs to be addressed in more detail.

Refer to Responses to Comments 13-24 and 14-16.

PUBLIC HEARING COMMENT 222 - BUD BEEDE (APRIL 3, 1997)

Response to Comment 222-1

The comment asks if the proposed wall along Highway 280 would prevent a reoccurrence of the 1995 Downtown flood, and if the gabions proposed in Reach 6 will be designed to hydrostatic pressure. The comment also asks what has happened to the beautiful 1920s arch span bridge behind the District building.

The proposed wall along Highway 280 is part of the Downtown Corps of Engineers Project. After the completion of the Downtown Project, flood flows of 1995 magnitude will not overbank and cause flooding. The proposed gabion bypass channel will be engineered to withstand hydrostatic pressure. The District has no records of the arch bridge mentioned by the commenter.

PUBLIC HEARING COMMENT 223 - JOHN WILSON (APRIL 3, 1997)

Response to Comments 223-1 and 223-2

The comment reported that the proposed percolation pond area in Reach 12 is being planned for residential development by Arcadia Development.

The District is aware of the development plan and has been coordinating with the City and Arcadia to discuss the flood control and development plans.

Response to Comment 223-3

The comment states that endangered species are addressed in the EIR/EIS, but no other wildlife.

The "Wildlife Habitat Types" and "Wildlife Habitats and Conditions by Reach" in Chapter 4.13, "Wildlife," describe many of the wildlife species observed along the river during field surveys.

Response to Comments 223-4 and 223-5

The comment claims that the reason there are no trees in Reach 12 is because of the District's herbicide spraying program. The comment also asks why coffer dams are needed.

Refer to Response to Comment 13-35 regarding use of herbicides. When construction activities require work in the channel, temporary coffer dams are usually constructed to divert water around the construction site. Flows coming from upstream will not be held back, but will be re-routed downstream.

Response to Comment 223-6

The comment expresses the belief that the proposed levees in Reach 12 will increase flood risk to the commenter's property.

The EIR/EIS authors disagree. The proposed project in all reaches is designed to avoid inducing flooding downstream or upstream of the project area.

PUBLIC HEARING COMMENT 224 - DON DUGDALE (APRIL 3, 1997)

Response to Comment 224-1

The comment requests that the construction schedule be accelerated.

Refer to Response to Comment 29-7.

PUBLIC HEARING COMMENT 225 - PAULA OAKES (APRIL 3, 1997)

Response to Comment 225-1

The comment claims that the existing Coyote Creek bypass channel is an eyesore that collects stagnant water, and expresses concern that proposed bypass channels will have similar problems.

The proposed bypass channel bottom will be constructed to slope to one bank for drainage and the gabion banks will be revegetated. The bypass channels will only carry water during high flood flows.

PUBLIC HEARING COMMENT 226 - GARY JANSEN (APRIL 3, 1997)

Response to Comment 226-1

The comment requests that the construction schedule be accelerated.

Refer to Response to Comment 29-7.

Response to Comment 226-2

The comment expresses concern that District-owned properties in the Virginia/McClellan area have been blighted and affect the entire neighborhood.

The District intends to continue work with the community to address property management issues. The District has a property management plan which contains guidelines for renting, demolition and interim use of properties acquired for development of the proposed flood control project. The District's management and disposition process is outlined in Mitigation Measure LU-2 in Chapter 4 of the EIR/EIS.

PUBLIC HEARING COMMENT 227 - RANDY KLEIN (APRIL 3, 1997)

Response to Comment 227-1

The comment asks what prompted the warning signs to be placed along the river and states that there is no reason for bringing back the salmon to a contaminated creek.

The warning signs were put up for the safety of the community due to mercury contamination of fish in the river. Water quality data for the Guadalupe River presented in the Table 4.3-1 in the Draft EIR/EIS show that levels of mercury are generally below detection limits. The project is required to mitigate for impacts to fisheries associated with flood control improvements.

PUBLIC HEARING COMMENT 228 - JAMES GALE (APRIL 3, 1997)

Response to Comment 228-1

The comment asks for details regarding proposed flood control improvements in Reach 9 and requests a meeting with the District staff to better understand the proposed project.

The proposal is to widen the channel on the east bank onto San Jose Water Company's property. The west bank will remain as existing. The District has met with the commenter to explain the proposed project.

PUBLIC HEARING COMMENT 229 - A.O. BLACK (APRIL 3, 1997)

Response to Comment 229-1

The comment asks if the new bridges will allow pedestrian trails beneath them. The comment suggests relocating the Willow Glen Way Bridge to Pine Avenue.

The proposed project does specify that construction of new bridges shall provide clearance for continuous access beneath. The comment on bridge relocation should be addressed to the City's Transportation Department.

PUBLIC HEARING COMMENT 230 - ROSEMARY PALACIOS (APRIL 3, 1997)

Response to Comment 230-1

The comment asks how long the residents would have to relocate if needed.

Generally, residents that are required to be relocated are notified one year prior to construction. District staff has meet with the commenter for further clarification.

PUBLIC HEARING COMMENT 231 - JOE MARTIN (APRIL 3, 1997)

Response to Comment 231-1

The comment asks why the creek is not cleaned out to enable water to flow freely.

Refer to Response to Comment 202-1.

PUBLIC HEARING COMMENT 232 - RUTH GOLDSTEIN (APRIL 3, 1997)

Response to Comment 232-1

The comment asks for identification of the 10 locations specified in the public notice to be visually impacted; asks what materials will be use for the maintenance ramps, inquires whether ramps will be gated and requests the locations of ingress and egress to the ramps.

The 10 locations identified in the public notice are listed in the Visual Section Chapter 4 of the EIR/EIS. The maintenance ramps will be surfaced with 6-inch crushed rocks and they will be gated for security reasons. The specific ingress and egress locations for the ramps are shown on the engineering plans in the Engineer's Report.

PUBLIC HEARING COMMENT 233 - WILLIAM GARBETT (APRIL 3, 1997)

Response to Comment 233-1

The comment asks about the District's plan for cloud seeding

The District currently does not have a plan for cloud seeding.

Response to Comment 233-2

The comment asks about the objectives of dam releases.

The reservoirs owned by the District are primarily for water supply, however, the reservoirs do provide some incidental benefits to flood control.

Response to Comment 233-3

The comment asks for the State Clearinghouse numbers for related projects not in the EIR.

Because the comment is not specific, it is not clear for which projects State Clearinghouse numbers are requested. These numbers can be obtained by calling the State Clearinghouse at 916/445-0613.

Response to Comments 233-4 through 233-6

The comment does not support solutions that will increase velocities in the channel or levees alternative.

Levees and floodwall alternatives were evaluated but were found not feasible. The proposed project would not increase channel velocities in all the reaches.

Response to Comment 233-7

The comment does not agree with the housing policy of increasing development near transits and freeways.

The District does not control housing policy. Comment on housing policy should be referred to the City of San Jose.

Response to Comment 233-8

The comment suggests that parkland is appropriate on river banks.

The District does support open space along river banks wherever feasible.

Response to Comment 233-9

The comment states that building headquarters, buying homes and water banking rights do not replace the need for reservoir or flood control.

The comment is correct, and is in agreement with the Draft EIR/EIS, which identifies a need for flood control improvements "so that flows up to the one percent flow could be contained without flooding within the project area" (see page 2-4 of the Draft EIR/EIS). The other District actions mentioned in the comment are not intended to address the need for flood control improvements.

PUBLIC HEARING COMMENT 234 - RICK BERNARDI (APRIL 3, 1997)

Response to Comment 234-1

The comment suggests that a glossary of terms be included in the report.

Refer to Response to Comment 216-1.

PUBLIC HEARING COMMENT 235 - MIKE JOHNSTON (APRIL 3, 1997)

Response to Comment 235-1

The comment asks why the construction schedule shows there is a five-year lapse where there is no construction.

The five-year lapse is when funds will be accumulated for constructing another reach of the channel. Refer to Response to Comment 27-9 on funding and future needs.

PUBLIC HEARING COMMENT 236 - UNIDENTIFIED AUDIENCE MEMBER (APRIL 3, 1997)

Response to Comment 236-1

The comment states that most of the homeowners own property extending to the middle of the creek and that it is reported that the District has problems maintaining those properties.

The District does have a policy that it cannot maintain private property with public funds, except during an emergency. Much of the creek property is still privately owned. Refer to Response to Comment 202-1.

PUBLIC HEARING COMMENT 237 - BOB STRICKLAND (APRIL 3, 1997)

Response to Comment 237-1

The comment asks if the impact to fish has been addressed and if the community can help in cleaning the creek.

The Draft EIR/EIS does address the impacts and mitigation to fisheries, which is included in Chapter 4 of the document. The District has an adopt-a-creek program where the community can participate in for creek cleanup. Refer to Response to Comment 202-1.

PUBLIC HEARING COMMENT 238 - BOBBIE PAUL (APRIL 3, 1997)

Response to Comment 238-1

The comment expresses confusion about why Reach 11A would require channel work as the river has not recently flooded in that reach.

The proposed project is to provide flood protection up to 100-year flood and the channel at its current state does not have the capacity.

PUBLIC HEARING COMMENT 239 - MARK PROTZIC (APRIL 3, 1997)

Response to Comment 239-1

The comment suggests that the District analyze its funds and resources such that it can keep up with its maintenance on what is built or else the facilities will be an eyesore.

The District has been managing its funds and resources to ensure that it can keep up with the maintenance responsibilities for facilities. Refer to Response to Comment 29-7 regarding future funding and needs.

PUBLIC HEARING COMMENT 240 - ALLEN ARONSON (APRIL 3, 1997)

Response to Comment 240-1

The comment expresses preference for a flood control channel that works instead of going for a least cost alternative that does not work.

Refer to Response to Comment 30-7.

PUBLIC HEARING COMMENT 241 - LARRY JOHMANN (APRIL 3, 1997)

Response to Comment 241-1

The comment claims that houses along a natural river are normally priced higher than an artificial channel.

The proposed project has avoided, where possible, elements that would convert the natural channel into an artificial channel. This comment was also submitted in writing, refer to Response to Comment 13-33.

SANTA CLARA VALLEY WATER DISTRICT BOARD OF DIRECTORS MEETING COMMENT 242 - (NOVEMBER 4, 1997)

Response to Comment 242-1

The comment questions how the long-term maintenance of this large project could better be addressed to avoid future problems.

The District has addressed options for the long-term maintenance of the project through analysis of alternatives that could reduce long-term maintenance (e.g., Fluvial Geomorphological Alternative and Stream Restoration Alternative). In addition, the District has included a mitigation bank to provide early mitigation for potential erosion repair projects. The District has also modified its maintenance practices, as detailed in Appendix C, in order to minimize impacts on beneficial habitat.

Response to Comment 242-2

The comment prefers the regulatory permit should include long-term maintenance.

Refer to Response to Comment 242-1

Response to Comment 242-3

The comment questions if the increased right of way cost in Reach 12 for the MVI alternative was as a result of the City rezoning property at the project location.

The law requires that the District acquire properties needed for the project at their appraised highest and best use value. Rezoning does not impact the value of the land that is to be acquired by the District. The increased cost in Reach 12 for the MVI alternative is due to the mitigation of impacts on the District's existing percolation system.

Response to Comment 242-4

The comment references Table 1.2 and the vegetation impacts (page 1-13) and recommends that the MVI Alternative be presented in an equal light as the Preferred Project.

Table 1.2 (Vegetation, Wildlife, Fisheries, Visual/Aesthetic Resources, and Cumulative Impacts) has been revised to reflect, in the same format, the data on impacts and mitigation measures for both the MVI Alternative and the Preferred Project.

Page 1-13. Table 1.2 is modified as follows:

TABLE 1.2

SUMMARY OF POTENTIAL SIGNIFICANT IMPACTS AND RECOMMENDED MITIGATION MEASURES

IMPACTS	MITIGATION MEASURES
VEGETATION	
Preferred Project	
V-1. Removal of Vegetation Including ~~9.48~~ 10.45 Acres of Riparian Forest, 5.23 Acres of Urban Forest, ~~1.85~~ 1.47 Acres of Jurisdictional Wetlands, ~~10.16~~ 10.13 Acres of Other Waters of the U.S., and up to 250 to 300 Ordinance Trees. (page 4.12-25)	V-1. Prepare and Implement ~~an Integrated Vegetation~~ Mitigation and Monitoring Plan. (page 4.12-27)
V-2. Disturbance of Riparian Forest Adjacent to Construction Areas. (page 4.12-26)	V-2. Implement a Vegetation Protection Plan for Riparian and Urban Forests. (page 4.12-34) Refer to Mitigation Measure V-1 above.
V-3. Disturbance of Riparian Forest Associated with Erosion Repair Activities (about 0.78 acres). (page 4.12-27)	V-3. Revegetate Erosion Repair Sites with Riparian Vegetation. (page 4.12-35)
Minimize Vegetation Impacts Alternative	
V-1(MVI). Removal of Vegetation Including 5.37 Acres of Riparian Forest, 7.27 Acres of Urban Forest, 1.38 Acres of Jurisdictional Wetlands, 7.62 Acres of Other Waters of the U.S., and up to 200 Ordinance Trees.	V-1(MVI). Prepare and Implement a Mitigation and Monitoring Plan.
V-2(MVI). Disturbance of Riparian Forest Adjacent to Construction Areas.	V-2(MVI). Implement a Vegetation Protection Plan for Riparian and Urban Forests. Refer to Mitigation Measure V-1(MVI) above.
V-3(MVI). Disturbance of Riparian Forest and Urban Forest Associated with Erosion Repair Activities (about 0.78 acres).	V-3(MVI). Revegetate Erosion Repair Sites with Riparian Vegetation.
~~Implementing the project would require removal of 5.21 acres of riparian forest.~~	~~Refer to Mitigation Measure V-1.~~
~~Implementing the project would require removal of 250-300 trees that may qualify for protection under the City's tree ordinance.~~	~~Refer to Mitigation Measures V-1.~~
~~Implementing the project could result in substantial disturbance to riparian forest plants outside but adjacent to construction areas.~~	~~Refer to Mitigation Measures V-1. and V-2.~~

IMPACTS	MITIGATION MEASURES
~~Implementing the project would require removal of 7.27 acres of urban forest.~~	~~Refer to Mitigation Measures V-1.~~
~~Implementing the project would result in loss or disturbance of 1.75 acres of wetlands and 7.64 acres of other waters of the United States.~~	~~Refer to Mitigation Measure V-1.~~
No Project Alternative	
No construction impacts on vegetation would occur under the No-Project Alternative; however, long-term benefits resulting from the proposed mitigation plan (a net gain of riparian forest and possibly wetland acreages and reduction of non-native plants in the riparian forest) would also not occur. Existing and ongoing operations and maintenance and erosion control practices that are described under "Operational Impacts" would continue. Loss of vegetation due to erosion would continue.	No mitigation is needed.
WILDLIFE	
Preferred Project	
WL-1. Removal of Riparian Wildlife Habitat. (page 4.13-20)	WL-1. Refer to Mitigation Measures V-1 and V-2. (page 4.13-22)
WL-2. Temporary Fragmentation of Wildlife Habitat Along the Riparian Corridor. (page 4.13-21)	WL-2. Refer to Mitigation Measures V-1 and V-2. (page 4.13-23)
WL-3. Disturbance of Riparian Wildlife Habitat Adjacent to Construction Areas. (page 4.13-21)	WL-3. Refer to Mitigation Measure V-3. (page 4.13-23)
WL-4. Removal of Urban Forest Wildlife Habitat. (page 4.13-21)	WL-4. Refer to Mitigation Measures V-1, V-2, and V-3. (page 4.13-23)
WL-5. Removal of Wetland and Aquatic Wildlife Habitats. (page 4.13-21)	WL-5. Refer to Mitigation Measure V-1. (page 4.13-23)
WL-6. Construction Disturbance to Wildlife Species along the Guadalupe River. (page 4.13-22)	WL-6. Refer to Mitigation Measure ~~V-3~~V-2. (page 4.13-23)
WL-7. Loss of Yellow Warbler Breeding Habitat. (page 4.13-22)	WL-7. Refer to Mitigation Measures V-1 and V-2. (page 4.13-23)
WL-8. Potential Disturbance to Breeding Burrowing Owls. (page 4.13-22)	WL-8. Conduct Burrowing Owl Survey and Avoid Adverse Impacts on Burrowing Owls if Present. (page 4.13-23)
WL-9. Loss of Suitable San Francisco Forktail Damselfly Habitat. (page 4.13-22)	WL-9. Refer to Mitigation Measure V-1. (page 4.13-24)

IMPACTS	MITIGATION MEASURES
Minimize Vegetation Impacts Alternative	
~~Impacts to wildlife would be similar to those for the Preferred Project, but they~~ The MVI Alternative would affect smaller acreages in Reaches 9-10A and Reaches 10C-11A. ~~Substantially l~~Less yellow warbler breeding habitat would be removed in Reaches 9-10A and 10C-11A. Potential disturbance to breeding burrowing owls would be the same in Reaches A and 12. ~~Substantially l~~Less fragmentation of riparian forest~~ would occur~~. Loss or disturbance of wildlife habitat that can be quantified by acreage are listed in Table 4.13-2 on page 4.13-19.	~~Mitigation measures and replacement ratios for all impacts on wildlife would be the same as those for the Preferred Project.~~
WL-1(MVI). Removal of Riparian Wildlife Habitat.	WL-1(MVI). Refer to Mitigation Measures V-1(MVI) and V-2(MVI).
WL-2(MVI). Disturbance of Riparian Wildlife Habitat Adjacent to Construction Areas.	WL-2(MVI). Refer to Mitigation Measure V-3(MVI).
WL-3(MVI). Removal of Urban Forest Wildlife Habitat.	WL-3(MVI). Refer to Mitigation Measures V-1(MVI) and V-2(MVI).
WL-4(MVI). Removal of Wetland and Aquatic Wildlife Habitats.	WL-4(MVI). Refer to Mitigation Measure V-1(MVI).
WL-5(MVI). Construction Disturbance to Wildlife Species along the Guadalupe River.	WL-5(MVI). Refer to Mitigation Measure V-3(MVI).
WL-6(MVI). Loss of Yellow Warbler Breeding Habitat.	WL-6(MVI). Refer to Mitigation Measures V-1(MVI) and V-2(MVI).
WL-7(MVI). Potential Disturbance to Breeding Burrowing Owls.	WL-7(MVI). Conduct Burrowing Owl Survey and Avoid Adverse Impacts on Burrowing Owls if Present.
WL-8(MVI). Loss of Suitable San Francisco Forktail Damselfly Habitat.	WL-8(MVI). Refer to Mitigation Measure V-1(MVI).
No Project Alternative	
No construction impacts on wildlife would occur under the No-Project Alternative; however, long-term benefits resulting from the mitigation plan (a net gain of riparian forest and reduction of non-native plants in the riparian forest) would not occur. Existing and ongoing operations and maintenance and erosion control practices that are described in the "Vegetation" section under "Operational Impacts" would continue. Loss of wildlife habitat due to erosion would continue.	No mitigation is needed.

IMPACTS	MITIGATION MEASURES
FISHERIES	
Preferred Project	
F-1. Reduction in Shaded Riverine Aquatic (SRA) Cover Resulting from the Removal of ~~5,096~~ 4,886 Linear Feet of Overwater Vegetation and 1,720 Linear Feet of Undercut Bank along the Guadalupe River. (page 4.14-39)	F-1. ~~Construct~~ Replace Affected Undercut Banks ~~On Site,~~ and Replace SRA Cover Habitat On Site.~~,~~ ~~and Improve Fish Passage Conditions on Guadalupe Creek.~~ (page 4.14-41)
F-2. Adverse Effects on Fish from Temporal Loss of Habitat.	F-2. Improve Fish Passage Conditions to Suitable Salmonid Habitat on Guadalupe Creek.
Minimize Vegetation Impacts Alternative	
F-1(MVI). Reduction in Shaded Riverine Aquatic (SRA) Cover Resulting from the Removal of 2,217 Linear Feet of Overwater Vegetation and 1,260 Linear Feet of Undercut Bank along the Guadalupe River.	F-1(MVI). Replace Affected Undercut Banks On Site, Replace SRA Cover Habitat On Site.
~~Most impacts would be similar to those of the Preferred Project. Potential for sedimentation and turbidity and reduced in-stream cover and shade associated with periodic vegetation removal and disturbance for floodway maintenance would be reduced by construction of a bypass channel in Reaches 9-10A and 10C-11.~~	~~Mitigation are the same as those for similar impacts above.~~
~~Construction activities would result in the loss of 110 linear feet of undercut streambank and about 0.4 acre and 2,010 linear feet of overwater vegetation.~~	~~Mitigation Measures F-2 and V-1 would be implemented with a smaller level of habitat development in proportion to the smaller level of impact.~~
F-2(MVI). Adverse Effects on Fish from Temporal Loss of Habitat.	F-2(MVI). Improve Fish Passage Conditions to Suitable Salmonid Habitat on Guadalupe Creek.
No Project Alternative	
Construction of project facilities would not occur and existing fishery resources would be maintained. The partial barriers downstream of the project area would not be permanently modified~~or removed~~. Adverse and beneficial impacts on fisheries associated with the project would not occur. Loss of fish habitat would occur due to erosion.	No mitigation is needed.
VISUAL/AESTHETIC RESOURCES	
Preferred Project	
V/A-1. Reduced Visual Quality from Construction-Related Activities. (page 4.15-71)	V/A-1a. Locate Staging and Storage Areas Outside Visually Sensitive Areas. (page 4.15-85)

IMPACTS	MITIGATION MEASURES
	V/A-1b. Minimize Areas of Surface Disturbance by Minimizing Clearing and Grading. (page 4.15-85)
	V/A-1c. Restore Graded Areas to Original Contours and Revegetate Cleared Areas. (page 4.15-85)
V/A-2. Removing or Substantially Reducing Views of Important Vegetation. (page 4.15-71)	V/A-2. Reestablish Views of Vegetation of High Visual Interest or Aesthetic Value. (page 4.15-85)
V/A-3. Increased Visibility or Viewer Awareness of Visually or Aesthetically Incongruous Elements from Removing or Reducing Screening Vegetation. (page 4.15-71)	V/A-3. Screen Views of Visually Incongruous Elements Resulting from Project Implementation. (page 4.15-86)
V/A-4. Degradation of the Natural-Appearing Character of the River Corridor. (page 4.15-84)	V/A-4. Maintain the Natural Character of the River Corridor. (page 4.15-86) Refer to Mitigation Measures V/A-2 and V/A-3 above and V/A-5 below.
V/A-5. Reduced Visual Quality by Removing or Replacing Structural Elements or Introducing Visually Incongruous Structures and Engineered Improvements. (page 4.15-84)	V/A-5. Blend New or Altered Structures with Their Surroundings. (page 4.15-88)
Minimize Vegetation Impacts Alternative	
~~Visual impacts would be similar to those for the Preferred Project, but they~~ The MVI Alternative would affect fewer visually sensitive areas (refer to page 4.15-41 for definition) in Reaches 9-10A and 11A. Visual impacts in Reach 10B would be greater under this alternative.	~~Mitigation measures are the same as those recommended for the Preferred Project.~~
V/A-1(MVI). Reduced Visual Quality from Construction-Related Activities.	V/A-1a(MVI). Locate Staging and Storage Areas Outside Visually Sensitive Areas.
	V/A-1b(MVI). Minimize Areas of Surface Disturbance by Minimizing Clearing and Grading.
	V/A-1c(MVI). Restore Graded Areas to Original Contours and Revegetate Cleared Areas.
V/A-2(MVI). Removing or Substantially Reducing Views of Important Vegetation.	V/A-2(MVI). Reestablish Views of Vegetation of High Visual Interest or Aesthetic Value.
V/A-3(MVI). Increased Visibility or Viewer Awareness of Visually or Aesthetically Incongruous Elements from Removing or Reducing Screening Vegetation.	V/A-3(MVI). Screen Views of Visually Incongruous Elements Resulting from Project Implementation.
V/A-4(MVI). Degradation of the Natural-Appearing Character of the River Corridor.	V/A-4(MVI). Maintain the Natural Character of the River Corridor. Refer to Mitigation Measures V/A-2(MVI) and V/A-3(MVI) above and V/A-5(MVI) below.

IMPACTS	MITIGATION MEASURES
V/A-5(MVI). Reduced Visual Quality by Removing or Replacing Structural Elements or Introducing Visually Incongruous Structures and Engineered Improvements.	V/A-5(MVI). Blend New or Altered Structures with Their Surroundings.
No Project Alternative	
Construction-related impacts on visual resources would not occur. ~~Cleanup of substantial amounts of~~ Removal of visually and aesthetically incongruous elements such as concrete rubble and commercial and household debris in the project area would not be conducted, and the District would continue to have limited access and easements to the stream. No new structures or views would be introduced, and no existing structures or views would be removed. Effects on visual resources from operation and maintenance procedures would not change.	No mitigation is needed.
CUMULATIVE IMPACTS	
VEGETATION	
Preferred Project	
No long-term cumulative impacts would result from the Preferred Project.	
Cv-1. Direct Removal of Riparian Vegetation and Near-Term Reduction in Mature Riparian Vegetation. (page 5-13)	Cv-1a. Minimize Recreational Impacts on Riparian Vegetation. (page 5-13) Cv-1b. Implement Revegetation during the First Fall Planting Season after Reach Construction. (page 5-15)
Minimize Vegetation Impacts Alternative	
Potential cumulative impacts resulting from the Minimize Vegetation Impacts Alternative would be less than those for the Preferred Project because less instream vegetation removal would be required in reaches 9, 10A, and 11A. The Minimize Vegetation Impacts Alternative would contribute to the short-term cumulative reduction of mature riparian vegetation (removing about 5 acres of riparian habitat), about 4.3 acres less than the Preferred Project. No long-term cumulative vegetation impacts would result from the Minimize Vegetation Impacts Alternative.	
Cv-1(MVI). Direct Removal of Riparian Vegetation and Near-Term Reduction in Mature Riparian Vegetation.	Cv-1a(MVI). Minimize Recreational Impacts on Riparian Vegetation. Cv-1b(MVI). Implement Revegetation during the First Fall Planting Season after Reach Construction.

IMPACTS	MITIGATION MEASURES
No Project Alternative	
The No Project Alternative would not result in cumulative impacts to mature riparian vegetation.	
FISHERIES	
Preferred Project	
No long-term cumulative impacts would result from the Preferred Project.	
Cf-1. ~~Construction of the Preferred Project and Other Projects on the Guadalupe River Would Result in Cumulative Impacts to Anadromous Fish Habitat, Water Temperature, and Potential Sedimentation of Spawning and Food Producing Areas.~~ Cumulative Impacts on Fish and Fish Habitat from Construction-Related Activities and Increase in Water Temperature. (page 5-16)	Cf-1. Provide for Fish Passage on Alamitos Creek and Monitor for the Presence of ~~Native~~ Anadromous Fish. (page 5-19)
Minimize Vegetation Impacts Alternative	
No long-term cumulative impacts would result from the MVI Alternative.	
Cf-1(MVI). Cumulative Impacts on Fish and Fish Habitat from Construction-Related Activities and Increase in Water Temperature.	Cf-1(MVI). Provide for Fish Passage on Alamitos Creek and Monitor for the Presence of Anadromous Fish.
~~The project's contribution to cumulative fishery impacts under the Minimize Vegetation Impacts Alternative would be somewhat less than those described for the Preferred Project. Reduced fishery impacts would result from reduced instream construction activities.~~	
No Project Alternative	
The No Project Alternative would not result in cumulative impacts to anadromous fish habitat.	

Response to Comment 242-5

The comment references Table 1.2 and the fisheries impacts (page 1-15) and recommended that the MVI Alternative be presented in an equal light as the Preferred Project. The comment also requested clarification on the cumulative impacts of the MVI Alternative and whether there are or are not long-term cumulative vegetation impacts from the MVI Alternative.

See Response to Comment 242-4. The cumulative impacts presented in Table 1.2 have been clarified. After mitigation, the MVI Alternative does not have long-term cumulative vegetation impacts.

Response to Comment 242-6

The comment references the comparison of alternatives on page 1-22 and states that there should be less characterization of impacts and more specific references to the impacts themselves, especially with regard to the MVI Alternative.

The description of the impacts and mitigation measures for the MVI Alternative have been modified for Chapters 4.12 "Vegetation," 4.13 "Wildlife," and 4.14 "Fisheries" to focus less on the differences compared to the Preferred Project and more on the impacts. The analysis reflected in the Draft EIR/EIS has not changed, the presentation has been modified. See also Response to Comment 242-4 and Master Response K.

Page 4.12-36. The discussion of the MVI Alternative in Chapter 4.12 "Vegetation" is modified as follows:

> **Minimize Vegetation Impacts Alternative**
>
> ~~Impacts of~~ The MVI Alternative would be similar to ~~those of~~ the ~~proposed project~~ Preferred Project, except in Reaches 9, 10A, 10C, 11A, and 12. Less vegetation would be affected ~~but they would affect smaller acreages~~ in Reaches 9-10A and Reaches 10C-11A under the MVI Alternative. ~~Levels of significance, mitigation measures, and replacement ratios would be the same for impacts on vegetation under the Minimize Vegetation Impacts Alternative and the Preferred Project.~~
>
> Table 4.12-10 presents impacts of the MVI Alternative on vegetation. Figure 4.12-6 illustrates impacts on sensitive vegetation types for this alternative. Tables 4.12-7 and 4.12-8 summarize the existing acreage, impact acreage, estimated mitigation acreage, and resulting post-project acreage for forests and jurisdictional waters by reach for the MVI Alternative and Preferred Project. Table 4.12-9 summarizes mitigation measures for impacts on vegetation under the MVI Alternative and Preferred Project.
>
> ~~Some impacts cannot be predicted and therefore cannot be compared quantitatively between the Minimize Vegetation Impacts Alternative and the Preferred Project, including:~~
>
> - ~~disturbance of riparian forest adjacent to construction areas,~~
> - ~~periodic vegetation removal and disturbance for floodway maintenance, and~~
> - ~~potential long-term decline in riparian forest vigor from removal of adjacent forest.~~
>
> ~~These impacts would be similar in character to those for the Preferred Project, but would affect a smaller area under the Minimize Vegetation Impacts Alternative.~~

~~Losses of vegetation that can be quantified by acreage are compared for the Preferred Project and the Minimize Vegetation Impacts Alternative in Tables 4.12-7 and 4.12-8. These impacts include:~~

- ~~removal of riparian forest,~~
- ~~removal of urban forest,~~
- ~~removal of nonforest upland vegetation, and~~
- ~~loss or disturbance of jurisdictional waters of the United States.~~

~~Mitigation measures for the Minimize Vegetation Impacts Alternative would be the same as those for the Preferred Project, except that mitigation acreages would be reduced in proportion to the reduction in impacted acreage.~~

Beneficial Impacts

Net Gain in Riparian Habitat Quality. Implementing the proposed mitigation measures would reduce the fragmentation of the riparian forest by approximately 39 percent. Many of the proposed mitigation sites would be in locations that currently lack riparian forest on one or both sides of the river. Total gap lengths would decrease substantially (190-4,940 feet) in Reaches 6-7 and 9-13. Total gap lengths would increase slightly (50-440 feet) in Reaches A and 8 (Table 4.12-11 and Figure 4.12-7).

Implementing the proposed mitigation measures would also increase the ratio of native to non-native trees and shrubs in the riparian forest, a non-quantified project benefit. Many of the riparian forest areas to be removed during project construction currently contain a high proportion of non-native plants. Mitigation sites will be planted entirely with native species.

Net Gain in Riparian Habitat Acreage. Implementing the proposed mitigation measures would increase the amount of riparian forest by at least 11 percent (5.37 acres) over pre-project conditions within the project area. Riparian forest removed by construction would be replaced on a 2:1 basis.

Phasing of Project Impacts. The project would be constructed in phases, not all at once; therefore, impacts on riparian forest and other important habitats would also occur incrementally and locally, not simultaneously throughout the project area. Additionally, mitigation plantings would outpace impacts on riparian and wetland habitats early in the project. Reaches 10B, 6 and 12, which together contain 99 percent of riparian forest mitigation, but less than 15 percent of project-wide riparian forest impact, would be the first reaches constructed. Reaches 10B and 12 also contain 100 percent of the proposed wetland mitigation acreage.

Less-than-Significant Impacts

Periodic Vegetation Removal and Disturbance for Channel Maintenance. Implementing the MVI Alternative would result in maintaining a larger area (including bypass channels and floodway benches) than is currently subject to maintenance (see "Operational Impacts" under "Impact Mechanisms") but most of the additional area would not have native vegetation. The proposed maintenance program incorporates several measures that would protect and enhance the riparian system, including leaving the bases of native plants in place where possible to allow 10 feet of growth until the next trimming and removing non-native trees and shrubs completely to increase the ratio of native to non-native vegetation. In addition, native vegetation would no longer be cleared from river channel banks unless absolutely necessary in the course of bank erosion maintenance.

This impact is considered less than significant because the project would reduce the removal of native vegetation over pre-project practices. No mitigation is required.

Potential Long-Term Decline in Riparian Forest Vigor from Removal of Adjacent Forest. Implementing the MVI Alternative may cause declines in the cover, density, height, vigor, and native species diversity of riparian forest plants in Reaches 6-12 that would become apparent only in the long term. These changes could develop gradually over a period of years because of decreased shading, decreased soil moisture, increased air temperature, and increased wind exposure caused by removal of substantial amounts of adjacent riparian forest. Because the impact would develop slowly, the full extent and character of this impact cannot be identified without extended monitoring before and after project construction. Even with the results of such monitoring, some of the observed changes may not be clearly attributable to this project.

This impact is considered less than significant because: 1) the magnitude of the impact is expected to be substantially less than direct removal and disturbance of vegetation by construction; 2) the mechanism for this potential impact cannot be clearly defined or modeled; 3) it is not possible to predict with certainty what species would be most affected, how soon the effects would appear, how extensive the effects would be, or to what extent the ecosystem has a capacity to compensate for the impact; 4) it is not possible to predict what proportion of this impact would be attributable to the flood control project as opposed to other activities along the river; and 5) implementing other mitigation measures identified for direct impacts on riparian vegetation and shaded riverine aquatic cover would substantially minimize and offset any long-term declines in riparian forest vigor.

No mitigation is needed.

Removal of Nonforest Upland Vegetation. Implementing the proposed project would eliminate up to approximately 8.65 acres of ruderal herbaceous vegetation, 6.84 acres of ruderal scrub, and 3.86 acres of upland landscaping (Table 4.12-10).

This impact is considered less than significant because: 1) most of the vegetation affected is not native, 2) all three habitats are locally and regionally common, and 3) most areas of temporary disturbance (approximately half of the total impact) would recover naturally within a few years, and 4) some of these sites are human-caused gaps in the riparian forest and would be replanted with riparian forest in the mitigation program. The USFWS Coordination Act Report (U. S. Fish and Wildlife Service 1993) considers ruderal scrub in the project area to be important habitat for the yellow warbler, a migratory songbird, and recommends mitigation to achieve no net loss of habitat value.

The District plans to implement other mitigation measures that should address USFWS concerns regarding impacts on yellow warbler habitat. Specifically, some areas of impact on ruderal vegetation will be replanted with riparian vegetation as part of Mitigation Measure V-1(MVI), and blackberries (ruderal scrub) and other shrubs will be planted in pockets along some stepped gabions for mitigation of visual/aesthetic impacts.

Construction Impacts

Impact V-1(MVI): Removal of Vegetation Including 5.37 Acres of Riparian Forest, 7.62 Acres of Urban Forest, 1.38 Acres of Jurisdictional Wetlands, 7.62 Acres of Other Waters of the U.S., and up to 200 Ordinance Trees.

Riparian Forest. Implementing the MVI Alternative would result in direct removal of approximately 5.37 acres of existing riparian forest by construction activities, such as grading and excavation (Table 4.12-7). This acreage represents approximately 11 percent of the 47.48 acres of existing riparian forest mapped in Reach A and Reaches 6-13. At least half of the loss would be in graded sites not available for on-site replacement; at least a third of the loss would be in sites that could be used for revegetation.

This impact is considered significant because: 1) riparian corridors support high levels of plant and wildlife diversity, 2) the ecological functions of riparian corridors are degraded by vegetation removal, and 3) much riparian vegetation has already been lost in Santa Clara Valley and throughout the San Francisco Bay region in recent decades.

Urban Forest. Implementing the proposed project would result in permanent removal of approximately 7.27 acres of urban forest in Reaches 6, 8, 9, 11A and Ross Creek (Tables 4.12-7 and 4.12-10). Some additional backyard trees could die or become severely stressed if their root systems were disturbed by flood wall construction or other permanent impacts on Ross and Canoas creeks or the Guadalupe River. Some of the acreage included in this impact (at least 0.4 acre in Reach 6) occurs in or adjacent to construction staging areas where no removal of urban forest trees is expected to occur.

This impact is considered significant because, even though the plants are mostly non-native, many of the replacement trees would take 25 to 50 years to grow to similar size and some of these trees are protected by the City's tree ordinance.

Wetlands. Implementing the proposed project would result in permanent removal of approximately 1.38 acres of Corps-jurisdictional wetlands (Table 4.12-10). This is considered a significant impact because the Project will directly or indirectly result in the permanent loss or degradation of the resource.

Project implementation will result in the temporary disturbance of an unquantified extent of seasonal wetlands growing in narrow strips along the river channel. This temporary disturbance of seasonal wetlands is expected to occur during Project construction as a result of grading or other construction activities. This temporary disturbance is not considered significant because natural recovery is anticipated once the area is regraded. Observations of disturbed seasonal wetlands growing on banks and bars on the Lower Guadalupe River support this finding. No direct mitigation requirements are associated with this temporary disturbance to seasonal wetlands.

Project implementation will result in the temporary disturbance of 7.62 acres of other waters of the United States (other waters), which include unvegetated areas of the river (i.e., open water-surface areas) below the ordinary high-water mark (Tables 4.12-5 and 4.12-8). This temporary disturbance of other waters is expected to occur during Project construction as a result of grading or other construction activities. This temporary disturbance is not considered significant because natural recovery is anticipated; once construction has been completed, other waters are expected to occupy an equal or greater area in every Project reach and would remain in essentially the same locations with the exception of Reach 10B. In Reach 10B, the low-flow channel is expected to shift from the middle to slightly east, affecting the location, but not the quantity, of other waters. No direct mitigation requirements are associated with this temporary disturbance to other waters.

Trees Protected by City Tree Ordinance. Project construction could result in the removal of up to 200 trees that are large enough (over 18 inches DBH) to qualify for protection under the City's tree ordinance. The District would be required to obtain a tree removal permit and provide compensation for ordinance trees that are not on District property.

This impact is considered significant because the impact represents about 23 percent of existing trees in this size class and because the District must comply with the City's tree ordinance.

Impact V-2(MVI): Disturbance of Riparian and Urban Forest Adjacent to Construction Areas. Constructing the MVI Alternative could result in substantial inadvertent injury to or mortality of riparian and urban forest plants outside but adjacent to grading and construction areas (e.g., in lower bank sites between the channel bottom and excavated floodway benches).

Without physical barriers between construction areas and protected vegetation, impacts resulting from collisions with heavy equipment, sidecasting of graded material, soil compaction, materials storage, and other factors can be expected.

This impact is considered significant because, although the number and severity of inadvertent injuries cannot be predicted, they could affect a substantial number of trees and shrubs that would otherwise remain healthy.

Impact V-3(MVI): Disturbance of Riparian Forest Associated with Erosion Repair Activities. Bank erosion that occurred in Reaches 7 and 9 during the floods of January and March 1995 will be repaired concurrently with construction of the flood control project. The erosion sites will be repaired using a biotechnical design (with rocks of varying sizes, geotextiles, and live willow cuttings) that will allow woody riparian vegetation to establish throughout the erosion repair site. Small amounts of the "existing" riparian forest area included in pre-project habitat maps and tables has been removed already by the floods. Additional small areas could be removed or disturbed by movement of equipment and materials for the erosion repair work. The maximum combined area of flood-caused impacts and construction-caused impacts due to the erosion repair would be approximately 0.78 acre, affecting 1,075 linear feet of river bank.

This impact is considered significant for the reasons described under Impact V-1(MVI).

Mitigation Measures

Plates V-41 through V-54 (Volume II of the Draft EIR/EIS) and revised Plates in Volume V show areas preliminarily designated for the mitigation plantings called for in Mitigation Measure V-1(MVI). Table 4.12-9 summarizes mitigation measures for impacts on vegetation under the MVI Alternative.

Certain revegetation measures not described here are assumed to be part of the project (i.e., seeding grasses and other herbaceous plants on the floodway benches and bypass channel bottoms, planting some gabion slopes with blackberries, and seeding upland sites with grasses as needed to minimize soil erosion as required in the Storm Water Pollution Prevention Plan).

Mitigation Measure V-1(MVI): Prepare and Implement a Mitigation and Monitoring Plan. The District would prepare and implement a mitigation and monitoring plan to compensate for removal of riparian forest, shaded riverine aquatic (SRA) cover, urban forest, City ordinance trees, and wetlands. All of these planting needs would be integrated into a single plan because plantings that compensate for different impacts would be implemented side-by-side at the same time; methods of planting, maintenance, and monitoring would be similar for all types of vegetation; and scheduling of planting, maintenance, and monitoring must be coordinated for all mitigation plantings.

The mitigation and monitoring plan would provide detailed information on planting locations (specific to each vegetation type), plant materials (e.g., species, source, and size), planting methods (e.g., site preparation), maintenance methods (e.g., irrigation and weed control), monitoring methods (e.g., sample design, data requirements, survey frequency, and reporting requirements), and success criteria (e.g., percent canopy cover).

This measure is expected to provide a net long-term increase in habitat quality along the Guadalupe River, because it would replace with native species all of the riparian forest removed during construction (much of which is dominated by non-native and weedy plants) and would also reduce the fragmentation of the riparian forest by approximately 39 percent. In addition, the project would be constructed in phases, not all at once; therefore, impacts on riparian forest and other important habitats would also occur incrementally and locally, not simultaneously throughout the project area. Additionally, mitigation plantings would outpace impacts on riparian and wetland habitats early in the project. Reaches 6, 10A, and 12, which together contain 99 percent of all proposed riparian forest mitigation, but less than 15 percent of the project-wide riparian forest impact, would be the first reaches constructed. Reach 12 also contains 100 percent of the proposed wetland mitigation acreage. Therefore, the lag time between loss of habitat value and full compensation would be minimized. To further minimize the lag time, a replacement ratio of 2:1 is proposed and revegetation will be performed in the first fall planting season after reach construction. A Habitat Evaluation Procedures (HEP) Conference with participating resource agencies (DFG, USFWS, and Corps) was conducted in January 1993. The purpose of this meeting was to review the District's terrestrial riparian HEP for the project. The HEP recommended a 0.8:1 mitigation ratio. The USFWS, in the Draft Coordination Act Report (USFWS 1993) recommended a 2:1 ratio be used to compensate for the loss of riparian habitat. This mitigation ratio has been used in this EIR/EIS and is the basis for the mitigation plan outlined in the biotic resources analyses.

Goals, concepts, and guidelines that would be incorporated into the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS) are listed below.

Riparian Forest.

- Establish at least 10.74 acres of new riparian forest in Reaches 6-12. This goal is based on a 2:1 replacement ratio (based on canopy area) as discussed above.
- Plant tree and shrub species that are native to the local riparian system. Incorporate as much native plant material as possible into seed mixes of herbaceous plants used for erosion control.
- Plant different habitat types within riparian forest mitigation areas to accommodate difference in site conditions (e.g., edge of water vs. top of bank, soil textures). Potential habitat types and their dominant tree and shrub species, depending on site conditions, are:

1) Willow Riparian (arroyo willow, sandbar willow, mule fat)

2) Cottonwood/Willow Riparian (Fremont cottonwood, arroyo willow, sandbar willow)

3) Mixed Riparian (Fremont cottonwood, box elder, blue elderberry, California wild rose)

4) Oak Riparian (valley oak, coast live oak, California wild rose)

- Where possible, plant riparian vegetation for mitigation in existing gaps or openings (unvegetated or ruderal herbaceous areas) to reduce fragmentation and heterogeneity in the riparian corridor.

- Use indicators such as canopy cover as success criteria for the riparian forest. Based on District experience, canopy cover is an excellent indicator of riparian habitat success. Additional data will be collected for other performance parameters, such as health and vigor and natural recruitment (see Mitigation and Monitoring Plan in Volume VIII of the Final EIR/EIS).

Shaded Riverine Aquatic Habitat.

- Establish at least 2,217 linear feet of new vegetative cover by planting native riparian shrubs and trees (mostly willows) along unshaded banks. This provides the 1:1 replacement ratio needed to meet the SRA requirements. SRA requirements are discussed in the Fisheries section.

- Plantings intended to provide SRA cover should be planted along the water's edge at summer low flows and should be sufficiently dense to provide shade along at least 85 percent of the bank's length. In some areas, SRA cover would be planted in narrow strips along the edges of low flow channels and along the edges of floodway terraces. Although these floodway terraces would be kept free of woody vegetation, trimming and other maintenance would be avoided in designated strips of SRA cover. In other areas, SRA cover would be planted where there are no constraints on planting widths; in this case only riparian plantings located within 15 feet of the low-flow wetted channel are considered as SRA mitigation. When mature, the canopies of SRA plantings would exceed the ground level width by 10-50 feet.

Urban Forest.

- Establish at least 7.27 acres (based on canopy area) of new oak forest in selected top-of-bank sites in Reaches 6-12 to provide no net loss of urban forest.

- Use native tree shrubs species in the urban forest revegetation sites, especially valley oak, coast live oak, and California wild rose.

City Ordinance Trees.

- Establish at least 20.9 acres of new riparian forest and at least 5.23 acres of urban forest (oak savannah), as described above, to compensate for potential removal of heritage trees. Up to 10,000 trees and shrubs are expected to be installed with this mitigation.

- Comply with the City of San Jose's tree ordinance requirements for trees removed by the project that are not on District property. Conduct a pre-construction survey in each reach for ordinance trees that would be affected.

- Consult with the City Arborist and the City of San Jose Planning Department to identify and evaluate trees greater than 18 inches DBH that would be removed by the project on land not owned by the District.

Wetlands and Other Jurisdictional Waters of the United States.

- Establish at least 1.38 acres of jurisdictional wetlands to provide no net loss of wetlands within the project area, including new wetlands in Reach 12. In Reach 12, approximately 2.65 acres of wetlands will be constructed using native plant species. Wetlands established beyond mitigation needs will be used as mitigation backup and/or a mitigation bank.

- Constructed wetlands will meet success criteria described in the mitigation and monitoring plan (Volume VIII) for replacement of wetland function and value.

Locations.

- Locate all mitigation plantings in Reaches 6-13 and begin implementation of mitigation plantings in Reaches 10B and 12 in the early years of the multi-phase construction.

- Where sites can be revegetated following construction disturbance or minor grading, implement mitigation directly on the sites that were disturbed. Implement the remaining mitigation plantings in appropriate locations that are currently unvegetated or occupied by ruderal vegetation or sparse, degraded riparian forest.

- Plates V-41 through V-54 (Volume II of the Draft EIR/EIS) and revised Plates in Volume V of the Final EIR/EIS show anticipated locations of mitigation planting sites for riparian forest, urban forest, and wetlands.

Success Criteria. Criteria for tree and shrub plantings would vary with the type of riparian community. Success criteria are specified in the mitigation and monitoring plan (in Volume VIII of the Final EIR/EIS).

Maintenance and Monitoring.

- Provide maintenance that would protect mitigation plantings and facilitate establishment of vigorous vegetation.
- Monitor the mitigation plantings in a manner that provides early feedback to the District and its revegetation contractors on methods to improve results or correct problems, allows a determination of when success criteria have been achieved, and provides the documentation needed for monitoring required under CEQA and by project permits.
- Follow the mitigation monitoring guidelines described in the mitigation and monitoring plan (in Volume VIII of the Final EIR/EIS) of the Corps (1991) for standards of wetland monitoring design and reporting.

Public Education Program. The District would also prepare and implement a program to educate the community and creekside homeowners about biological mitigation and habitat protection associated with the project and to solicit their cooperation and support. Principal actions would include:

- Developing an educational brochure on proper stream care to be distributed to homeowners along the Guadalupe River within the environs of the project area before construction begins. This brochure would explain: 1) the reasons for the removal of non-native vegetation, 2) the values of native vegetation along the riparian corridor and on private property, 3) reasons for not dumping debris, 4) related issues concerning water quality, and 5) guidelines for aesthetic improvement.
- Conducting a series of workshops for creekside homeowners before and after project construction to explain the riparian mitigation program to be implemented, the value of riparian habitat to wildlife, and the goals of the mitigation program.

The program would be coordinated with Mitigation Measure V-1(MVI) and the District's channel maintenance program for the Guadalupe River.

Mitigation Banking. The MVI Alternative would result in 7.64 acres of riparian mitigation bank and approximately 13,411 linear feet of SRA mitigation bank. The mitigation bank includes riparian in Reaches 10C and 11A and SRA mitigation plantings in Reaches 7, 10A, 10C, and 11 (Table 3.6). Proposed mitigation plantings as well as mitigation bank sites are identified in Plates V-41 through V-54 of the Draft EIR/EIS and revised Plates in Volume V of the Final EIR/EIS. A Mitigation Bank Agreement that stipulates the operation and maintenance of the mitigation bank will be developed in consultation with and with the approval of the appropriate regulatory agencies, including USFWS and DGF.

Mitigation Measure V-2(MVI): Implement a Vegetation Protection Plan for Riparian and Urban Forests. The District would prepare and implement a plan to protect vegetation that does not need to be removed during project construction from inadvertent damage. This plan would incorporate standard construction practices used by the District and described in the project description.

Before construction begins, a survey would be conducted to identify and flag locations of construction area boundaries, specific trees near or within construction areas that are to be saved, and selected trees that may be transplanted to a mitigation area. Orange plastic barricade fencing would be erected or similar measures taken along construction area boundaries to identify areas of protected vegetation. The fencing would be placed as close to the actual limit of grading or construction (i.e., as far from the forest edge) as possible. If practical, selected trees within construction areas may be transplanted for use in a designated mitigation area by an experienced tree-moving contractor.

During construction, attachment of ropes, cables, or guys to trees outside the construction area would be avoided, except in emergencies. Trees not designated for removal that are damaged during construction would be trimmed under the direction of a qualified arborist to minimize the risk of disease. Trees outside the construction area that are damaged beyond recovery would be replaced at a 3:1 basis (three trees planted for each tree damaged) with native trees onsite or in an available adjacent site in the watershed, in a designated riparian forest mitigation area or shaded riverine aquatic habitat cover mitigation area.

The District would replace or compensate property owners for any native or non-native backyard trees that die or become severely stressed as a result of flood wall construction or other construction-related activities. Replacement may be provided on a 1:1 in-kind basis for trees with drip lines within 10 feet of project construction that die or become severely stressed during construction, or within 1 year after completion of construction for trees that are determined by a qualified arborist, on a case-by-case basis, to have been affected by project construction.

Mitigation Measure V-3(MVI): Revegetate Erosion Repair Sites With Riparian Vegetation. The District would incorporate live willow cuttings and other plant materials into the erosion repair treatments as specified in the maintenance program included in Appendix C, and would revegetate all areas cleared for access to the erosion repair sites with native riparian vegetation. This mitigation measure is similar to the riparian mitigation called for in Mitigation Measure V-1(MVI); however, the replacement ratio for erosion repair sites is 1:1 (not 2:1 as in Mitigation Measure V-1[MVI]). The mitigation goal for the erosion repair sites is 1:1 because the initial impact resulted from natural causes (flooding), the proposed repair methods would allow for on-site recovery of riparian vegetation, and the sites would be less susceptible to erosion after the repairs are completed.

Residual Impacts After Mitigation.

Potential impacts to vegetation resources could be mitigated to a level of insignificance by successful implementation of the mitigation measures recommended in this section of the EIR/EIS. Successful implementation of mitigation measures would provide a net long-term increase in habitat quality along the Guadalupe River because all of the riparian forest removed during construction (much of which is dominated by non-native and weedy plants) would be replaced with native species, many existing gaps in the riparian corridor would be filled, and a net gain of riparian forest and possibly wetland acreages would result. Educating the community and creekside homeowners about biological mitigation and habitat protection associated with the project would increase the likelihood of successful mitigation efforts.

The proposed construction phasing (Table 3.5, Chapter 3 of this EIR/EIS) has been designed to allow for mitigation planting in Reaches 10B and 12 and construction of flood control facilities in Reach A and Reach 6 as the first phase of the project. The major portion of riparian vegetation impacts would result from construction of flood control facilities in the middle reaches, which would be phased between 2001 and 2019. This phasing would allow time for mitigation planting to become established and for habitat to become available in Reaches 10B and 12 prior to construction impacts occurring in other reaches of the Upper Guadalupe River Corridor.

Page 4.13-25. The discussion of the MVI Alternative in Chapter 4.13 "Wildlife" is modified as follows:

Minimize Vegetation Impacts Alternative

The MVI Alternative would be similar to the Preferred Project, except in Reaches 9, 10A, 10C, 11A, and 12. Less habitat would be affected in Reaches 9-10A and Reaches 10C-11A under the MVI Alternative. Figure 4.12-6 and Table 4.12-10 in the "Vegetation" section illustrate impacts on sensitive vegetation types and wildlife habitats for the Minimize Vegetation Impacts Alternative.

Less-than-Significant Impacts

Removal of Nonforest Wildlife Habitat. Implementing the MVI Alternative would eliminate approximately 8.65 acres of ruderal herbaceous habitat, 6.84 acres of ruderal scrub habitat, and 3.86 acres of upland landscaping (Tables 4.12-10 and 4.13-2). Ruderal habitats, especially along Reach A, provide important habitat for adjacent riparian wildlife, foraging habitat for raptors, and a buffer between the riparian corridor and adjacent developed areas. Approximately half of this loss is temporary; the habitat would recover naturally in a few years. Some areas of impact on ruderal habitats would be planted with riparian vegetation as part of Mitigation Measure V-1(MVI), which requires establishing new riparian vegetation to compensate for riparian forest removed in construction (refer to Section 4.12, "Vegetation"). Because approximately half of the impacted upland habitats would recover in a few years and these upland habitats do not support special-status wildlife species, this impact is considered less than significant.

No mitigation is required; however, the District plans to implement other mitigation measures that should address USFWS concerns regarding impacts on yellow warbler habitat.

Specifically, some areas of impact on ruderal vegetation would be replanted with riparian vegetation as part of Mitigation Measure V-1(MVI), and blackberries (ruderal scrub) and other shrubs would be planted in pockets along some stepped gabions for mitigation of visual/aesthetic impacts.

Periodic Disturbance and Removal of Wildlife Habitat for Floodway Maintenance. Implementing the proposed maintenance program would result in the periodic removal of riparian wildlife habitat in the channel bottom and lower banks. The proposed maintenance program incorporates several measures that would minimize impacts on wildlife and enhance riparian wildlife habitat, including, where possible, leaving the bases of native plants in place to allow several feet of growth until the next trimming, and removing non-native trees and shrubs to increase the ratio of native to non-native vegetation, which would increase the habitat value for wildlife.

This impact is considered less than significant because the proposed project would reduce the extent of clearing of vegetation from preproject practices.

No mitigation is required; however, implementing Mitigation Measures V-1(MVI) and V-2(MVI), an integrated vegetation mitigation plan including public education and a vegetation protection plan for riparian and urban forests, respectively, would reduce the potential of inadvertent impacts on wildlife habitat.

Potential Disturbance of California Red-Legged Frogs. Implementing the project is not likely to disturb California red-legged frogs because they are not expected to occur in the affected area; therefore, this potential impact is considered less than significant. No mitigation is required.

Potential Loss of Southwestern Pond Turtles and Their Habitat. Southwestern pond turtles probably occur in low numbers along the Guadalupe River and its tributaries in the affected areas and the aquatic and upland habitat is considered poor-quality habitat. Implementation of the project would further fragment the riparian habitat and could eliminate a minor amount of potential nesting habitat. Pond turtles could also be temporarily displaced during construction of the project.

The presence of bullfrogs, non-native predatory fish, and other predatory animals (e.g., striped skunks, opossums, raccoons, herons, and dogs) increase the level of predation of turtle eggs and young turtles. Competitors such as the red-eared turtles also occur in the area. The presence of water pollution and storm runoff, and the close proximity of urban development to the river reduce habitat quality for pond turtles. Despite this factors, a small number of pond turtles appear to exist along the river. Also, individuals could immigrate into the project area from upstream. Under these circumstances, project construction would not significantly affect the species.

No mitigation is required; however, implementing Mitigation Measures V-2 and V-3, a public education program and a vegetation protection plan for riparian and urban forests respectively, could minimize potential impacts on the pond turtle.

Temporary Fragmentation of Wildlife Habitat Along the Riparian Corridor. Implementing the project would temporarily increase wildlife habitat fragmentation along the Guadalupe River corridor by removing riparian vegetation in each reach of the river (Table 4.12-10). Wildlife habitat fragmentation and isolation is the process of creating disjunct patches of one kind of vegetation or habitat surrounded by vegetation of different kinds or by urbanization. The faunas of these "habitat islands" generally contain fewer species than do those of the adjacent larger tracts of equivalent habitat or former habitat (Terborgh and Winter 1980, Jensen et al. 1990). The earth bypasses in Reaches 9/10A and 10C/11A proposed under the MVI Alternative would reduce losses of riparian vegetation and minimize fragmentation. This impact is considered less than significant. No mitigation is required.

Construction Impacts

Impact WL-1(MVI): Removal of Riparian Wildlife Habitat. The HEP team (i.e., representatives from USFWS, DFG, the District, and Jones & Stokes Associates) for the Guadalupe River Flood Control Project agreed that the field surveys and the HEP analysis prepared by The Habitat Restoration Group and BioSystems Analysis were adequate to characterize the habitat requirements of riparian wildlife, including the evaluation species, and assess the impacts on the evaluation species.

The HEP analysis of the riparian wildlife resources of the proposed project was designed to:

- Describe the existing riparian wildlife habitat conditions for selected evaluation species in the proposed project area and mitigation sites;
- Determine the baseline riparian wildlife habitat values for the evaluation species in the proposed project area and mitigation sites;
- Quantify impacts on riparian wildlife habitat from implementation and operation of the proposed project;
- Determine whether the proposed compensation mitigation plan would fully offset direct, on-site, project-related impacts on riparian wildlife habitat for the evaluation species; and
- Develop management actions for mitigation sites in the proposed project area.

Implementing the MVI Alternative would result in removal of 5.37 acres of riparian wildlife habitat (e.g., riparian forest) from construction activities such as grading and excavation. Losses of riparian habitat are presented by reach in Table 4.12-10 and summarized in Table 4.13-2. The loss of riparian habitat would eliminate or displace wildlife species that occupy riparian habitat at the project site. The HEP analysis determined that the evaluation species least affected by project implementation would be the rufous-sided towhee and also determined that the northern oriole would be the most affected evaluation species.

This impact is considered significant because riparian forest, which provides important habitat for riparian-dependent wildlife, has declined locally (Santa Clara Valley), regionally (Central Coast), and statewide, and the proposed project would contribute to this decline.

Impact WL-2(MVI): Disturbance of Riparian Wildlife Habitat Adjacent to Construction Areas. Constructing the MVI Alternative could result in substantial loss of riparian wildlife habitat outside, but adjacent to, grading and construction areas. The loss of adjacent riparian wildlife habitat is considered significant because of the local, regional, and statewide decline of riparian habitats.

Impact WL-3(MVI): Removal of Urban Forest Wildlife Habitat. Implementing the MVI Alternative would result in removal of approximately 7.27 acres of urban forest wildlife habitats in Reaches 6, 8, and 9 and on Ross Creek (Tables 4.12-10 and 4.13-2). Additional backyard trees could die or become severely stressed if their root systems were disturbed by flood wall construction or other actions affecting Ross and Canoas creeks or the Guadalupe River. The loss of this buffer would substantially reduce the habitat values of the adjacent riparian forest. Many animals, especially birds, that use the riparian corridor move out to forage in adjacent upland habitats, including urban forests.

This impact is considered significant because the loss of urban forest would eliminate habitat that provides a buffer and foraging habitat for wildlife that use the adjacent riparian corridor.

Impact WL-4(MVI): Removal of Wetland and Aquatic Wildlife Habitats. Implementing the MVI Alternative would result in the permanent removal of approximately 1.38 acres of wetland and the temporary disturbance of 7.62 acres of other waters of the United States (Tables 4.12-10 and 4.13-2). The original vegetation, functions and values of these habitats may reestablish naturally in areas of temporary disturbance, but not in areas of permanent removal caused by excavation or filling (see Impact V-1(MVI) in the "Vegetation" section.) This impact is considered significant because wetland and aquatic wildlife habitats have high value for wildlife and have declined substantially in Santa Clara Valley, the central Coast Ranges region, and the state.

Impact WL-5(MVI): Construction Disturbance to Wildlife Species along the Guadalupe River. Construction-related noise and activity could disturb foraging, breeding, and roosting wildlife along the Guadalupe River. This impact is considered significant because of the high use of the Guadalupe River by water birds for foraging and roosting and because construction activity could disturb substantial numbers of breeding or roosting wildlife along the River.

Impact WL-6(MVI): Loss of Yellow Warbler Breeding Habitat. Implementing the MVI Alternative would eliminate some suitable yellow warbler nesting and foraging habitat along Reaches 6, 7, 8, 9, 10A, 10B, 11A, 11B, and 11C. This impact is considered significant because DFG includes the yellow warbler on its list of species of special concern and the project could eliminate a substantial amount of occupied breeding habitat, resulting in a substantial decline of breeding yellow warblers along the Guadalupe River.

Impact WL-7(MVI): Potential Disturbance to Breeding Burrowing Owls. Implementing the MVI Alternative could result in the disturbance (e.g., from grading and construction activities) of potentially breeding burrowing owls in Reach 12 and in Reach A. This impact could be temporary or permanent. This impact is considered significant because DFG includes the burrowing owl on its list of species of special concern and the MVI Alternative could contribute to the decline of the species locally and regionally.

Impact WL-8(MVI): Loss of Suitable San Francisco Forktail Damselfly Habitat. Implementing the MVI Alternative, primarily excavation, could result in the loss of approximately 9.0 acres of suitable San Francisco forktail damselfly habitat along Guadalupe River. This impact is considered potentially significant because the forktail is currently rare in the project area, and a substantial amount of forktail habitat could be affected by the project.

Mitigation Measures

Mitigation Measure WL-1(MVI): Compensate for the Loss of Riparian Wildlife Habitat by Implementing Mitigation Measures V-1(MVI) and V-2(MVI) (refer to Section 4.12, "Vegetation"). These mitigation measures recommend that the District implement an integrated vegetation mitigation plan, a public education program, and a vegetation protection plan for riparian and urban forests. A habitat replacement ratio of 2:1 is proposed to mitigate for construction and operational impacts of the MVI Alternative on riparian habitat (Neudorf 1993). As described in the "Vegetation" chapter, these measures are expected to result in a long-term gain in riparian habitat quality because of the use of native species for mitigation plantings would outpace impacts on riparian and wetland habitats.

Mitigation Measure WL-2(MVI): Minimize Loss of Adjacent Riparian Wildlife Habitat V-2(MVI). This mitigation measure recommends that the District prepare and implement a plan to protect vegetation that does not need to be removed during project construction.

Mitigation Measure WL-3(MVI): Implement Mitigation Measures V-1(MVI) and V-2(MVI) to Reduce the Impact of Loss of Urban Forest Wildlife Habitat. Mitigation Measure V-1(MVI) recommends that the District prepare and implement a detailed mitigation plan to compensate for removal of urban forest and other vegetation and prepare and implement a program to educate the community and creekside homeowners about biological mitigation and habitat protection associated with the project. Mitigation Measure V-2(MVI) recommends that the District implement a vegetation protection plan for riparian and urban forests and replace or compensate property owners for backyard trees that die or become severely stressed as a result of project-related activities.

Mitigation Measure WL-4(MVI): Compensate for the Loss of Wetland and Aquatic Habitats by Implementing Mitigation Measure V-1(MVI). Mitigation Measure V-1(MVI) provides for creation of habitat for wetland-dependent wildlife.

Mitigation Measure WL-5(MVI): Implement Mitigation Measure V-2(MVI) to Minimize Construction-Related Disturbances of Wildlife. This measure designates boundaries of construction zones that need to be fenced or flagged to protect wildlife habitat and compensation for inadvertent loss of trees.

Mitigation Measure WL-6(MVI): Implement Mitigation Measures V-1(MVI) and V-2(MVI) to Compensate for the Loss of Yellow Warbler Habitat. These mitigation measures recommend that the District implement an integrated vegetation mitigation plan, a public education program, and a vegetation protection plan for riparian and urban forests.

Mitigation Measure WL-7(MVI): Conduct Burrowing Owl Survey and Avoid Adverse Impacts on Burrowing Owls if Present. The District should conduct burrowing owl surveys each year, beginning the fall before the start of construction, for a minimum of 3 years, until construction has been completed in Reaches 12 and A. The surveys should be conducted during the nonbreeding season (December 1-January 31) for winter residents and breeding season (April 15-July15) for nesting owls. The surveys should be conducted over four evenings or early in the morning during both the nonbreeding and breeding seasons for a total of eight surveys each year. During the year of construction, the preconstruction surveys should be conducted about 2-4 weeks before construction begins to determine whether burrowing owls are occupying the project site before construction. Within 30 days of conducting the preconstruction survey(s), the District should submit results to DFG. If no burrowing owls exist at the project site, no additional mitigation measures would be required.

If survey results reveal the presence of owls, monitoring by a qualified wildlife biologist would be required during construction activities and the District would provide a letter report of monitoring activities to DFG.

If surveys determine that burrowing owls are present, the District should implement one of the following mitigation measures, depending on when construction is scheduled to occur.

- If construction occurs during the nonbreeding season (September-January), the District would avoid construction within 160 feet of the active burrow to avoid disturbing or killing the burrowing owls. This schedule would comply with laws under the California Fish and Game Code, the federal Migratory Bird Treaty Act, and DFG's borrowing owl guidelines. Monitoring potential wintering burrows would be necessary to ensure that no owls were killed during grading. A qualified wildlife biologist would survey the affected area within 2-4 weeks (which can be conducted during the annual surveys) before construction activity begins to determine if active burrows are present. After determining that active burrows are unoccupied, the burrows should be destroyed to prevent reoccupancy during construction. The exclusion methods (passive relocation) are described in DFG's burrowing owl mitigation guidelines.

- If construction occurs during the breeding season (February-August), the District would exclude the owls from the project area before the breeding season began and prevent the owls from returning by the following actions. The exclusion methods (passive relocation) are described in DFG's burrowing owl mitigation guidelines:
  - Examining all potential burrows in Reach 12 and Reach A during the nonbreeding season (December- January) to determine the presence or absence of owls,
  - Placing one-way exit doors on all potential burrows for 48 hours, then destroying or collapsing unoccupied burrows to prevent their use during the nonbreeding and breeding seasons,
  - Providing a buffer area of 250 feet surrounding active nest sites that are near the construction site, but not directly affected by the project, and
  - Monitoring the project site and continuing to destroy burrows until grading begins to ensure that new burrows constructed by ground squirrels are not occupied by owls and used as dens.
- Within 60 days of completion of construction activities in Reach 12 and Reach A, the District would submit a letter report to DFG that includes results of the preconstruction survey, monitoring and preventive actions taken during construction, and postconstruction conditions.

If occupied habitat cannot be avoided, the District will contact DFG to determine the appropriate habitat mitigation. Final mitigation requirements will depend upon the number of pairs of owls or individual owls impacted by the project and the amount of occupied land impacted. A burrowing owl mitigation plan would be developed in cooperation with DFG. If the affected area is not occupied by burrowing owls for 3 years, the District should confer with DFG to determine if habitat mitigation is needed, since the area could be considered unoccupied.

Successful implementation of this mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure WL-8(MVI): Compensate for the Loss of Forktail Habitat by Implementing Mitigation Measure V-1(MVI). Mitigation Measure V-1(MVI) provides habitat for wetland-dependent wildlife (refer to Section 4.12, "Vegetation").

Residual Impacts After Mitigation

Potential impacts to wildlife resources could be mitigated to a level of insignificance by successful implementation of the mitigation measures recommended in this section of the EIR/EIS. Successful implementation of mitigation measures would provide a net long-term increase in habitat quality along the Guadalupe River because all of the riparian forest removed during construction (much of which is dominated by non-native and weedy plants) would be replaced with native species and a net gain of riparian forest and possibly wetland acreages would result. Educating the community and creekside homeowners about biological mitigation and habitat protection associated with the project would increase the likelihood of successful mitigation efforts for all resources.

~~Impacts on wildlife for the Minimize Vegetation Impacts Alternative would be similar to those for the Preferred Project, but they would affect smaller acreages in Reaches 9-10A and Reaches 10C-11A. Figures 4.12-4 and 4.12-6 in the "Vegetation" section illustrates impacts on sensitive vegetation types and wildlife habitats for the Preferred Project and the Minimize Vegetation Impacts Alternative, respectively. Levels of significance, mitigation measures, and replacement ratios would be the same for all impacts on wildlife as for the proposed project.~~

~~Some impacts cannot be predicted and therefore cannot be compared quantitatively between the Minimize Vegetation Impacts Alternative and the Preferred Project. Impacts on wildlife that cannot be quantified include:~~

- ~~Disturbance of riparian wildlife habitat adjacent to construction areas,~~
- ~~Construction disturbance to wildlife species along the Guadalupe River,~~
- ~~Periodic disturbance and removal of wildlife habitat for floodway maintenance,~~
- ~~Potential long-term decline in riparian forest vigor resulting from removal of adjacent forest,~~
- ~~Loss of yellow warbler breeding habitat,~~
- ~~Potential disturbance to breeding burrowing owls, and~~
- ~~Fragmentation of riparian forest.~~

~~Substantially less yellow warbler breeding habitat would be removed in Reaches 9-10A and 10C-11A under the Minimize Vegetation Impacts Alternative (Tables 4.12-7 and 4.12-10 in the "Vegetation" section).~~

~~Potential disturbance to breeding burrowing owls would be the same as for the Preferred Project because potential breeding habitat for the owls occurs in Reach A and Reach 12.~~

~~Substantially less fragmentation of riparian forest would occur under the Minimize Vegetation Impacts Alternative. Tables 4.12-5 and 4.12-9 in the "Vegetation" section illustrate riparian losses for the Preferred Project and the Minimize Vegetation Impacts Alternative by reach.~~

~~The Ricksecker's water scavenging beetle is not expected to occur in the project area; therefore, no impacts on potential habitat for the beetle would occur under the Preferred Project or the Minimize Vegetation Impacts Alternative.~~

~~Losses of sensitive habitat types that can be quantified by acreage are compared for the Preferred Project and the Minimize Vegetation Impacts Alternative in Table 4.13-2. These impacts include:~~

- ~~Loss of riparian wildlife habitat,~~
- ~~Removal of urban forest wildlife habitat,~~
- ~~Removal of nonforest upland wildlife habitat,~~
- ~~Loss of wetlands and aquatic wildlife habitat, and~~
- ~~Loss of potential San Francisco forktail damselfly habitat.~~

~~*Mitigation Measures*~~

~~Mitigation measures for the Minimize Vegetation Impacts Alternative would be the same as those for the Preferred Project, except that mitigation acreages would be reduced in proportion to the reduction in impacted acreage.~~

Page 4.14-46. The discussion of the MVI Alternative in Chapter 4.1.4, "Fisheries," is modified as follows:

Minimize Vegetation Impacts Alternative

The Minimize Vegetation Impact (MVI) Alternative is identical to the Preferred Project in Reach A and Reaches 6, 7, 8, 10B, 11B, 11C, and 13. The MVI Alternative is different from the Preferred Project in Reaches 9, 10A, 10C, 11A, and 12. The impacts of the MVI Alternative are described below where they differ from those identified and discussed earlier for the Preferred Project.

Potential Adverse Effects on Fishery Resources Resulting from New Bypass Channels. Implementing the MVI Alternative would include constructing earthen bypasses in Reaches 9 (4,800 feet long), 10A (1,200 feet long), 10C (1,000 feet long), 11A (2,400 feet long), and 12 (2,200 feet long). The bypasses in these reaches would be constructed in addition to the 8,000-foot-long bypass channel in Reaches 6-8. The MVI bypasses would be designed to operate at flows greater than the bankfull flow. Therefore, their operation would be similar to the bypass in Reaches 6-8, discussed above, and the following potential impacts would be less than significant:

- Fish entrapment or delayed migration in the operating bypass channels,
- Reduced fish migration and spawning success in the Guadalupe River resulting from changes in hydraulic characteristics, and
- Reduced channel maintenance flows.

Construction Impacts

Impact F-1(MVI): Reduction in Shaded Riverine Aquatic (SRA) Cover Resulting from the Removal of 2,217 Linear Feet of Overwater Vegetation and 1,260 Linear Feet of Undercut Bank along the Guadalupe River. Construction activities associated with grading and excavation of streambanks and bank protection activities would result in the direct removal of overhead cover in the form of overwater riparian vegetation and undercut banks. Removal of this riparian vegetation would reduce existing overhead cover and undercut bank amounts by 2,217 linear feet (12 percent of total) and 1,260 linear feet (11 percent of total), respectively, in Reaches 6-12 of the Guadalupe River. Table 4.14-5 presents affected amounts of overwater vegetation and undercut banks by project reach.

Undercut banks and overhead cover provide fish with cover from predators, while canopy cover (overhanging vegetation) maintains shade for reducing thermal input and provides an energy input to the stream in the form of fallen leaves and insects. Riparian vegetation also is important in controlling streambank erosion and in maintaining undercut banks.

Removal of vegetation and undercut banks is considered a significant adverse impact because SRA cover is an essential component of salmonid streams. Salmonid populations are highly influenced by the amount of available cover, and much of the SRA cover in the Guadalupe River has been lost in recent decades as a result of urbanization, roadway and bridge construction, and flood control projects. Without appropriate mitigation, reductions in SRA cover could adversely affect fish production, abundance, and distribution in the Guadalupe River by reducing fish egg survival through increases in water temperature, increasing juvenile fish mortality through decreases in escape habitat, and reducing habitat complexity.

Impact F-2 (MVI): Adverse Effects on Fish from Temporal Loss of Habitat. Construction activities would result in the direct removal of vegetation and undercut banks. The removal of this SRA cover habitat would be significant, and mitigation is proposed in the form of revegetation and undercut bank construction that would replace affected SRA cover in equal quantities and quality (see Mitigation Measure F-1[MVI]). Although affected SRA cover would be replaced over the long term, there would be short-term losses of this habitat because of the time it would take for this habitat to reach pre-project abundance and quality. This short-term loss of habitat could adversely affect fish production, abundance, and distribution in the Guadalupe River. This impact is significant because the amount of existing habitat in the Guadalupe River that is considered suitable for salmonids is limited and any reduction in the abundance or quality of this remaining habitat may result in adverse impacts on those fish populations dependent on that habitat.

Mitigation Measures

Mitigation Measure F-1 (MVI): Replace Affected Undercut Banks and SRA Cover Habitat On Site. The District would mitigate construction-related impacts on undercut banks and SRA cover habitat associated with vegetation clearing during construction by implementing the following specific measures:

Plant 2,217 Linear Feet of Streamside Vegetation and Construct Undercut Banks. In association with replanted riparian vegetation, the District would replace 2,217 linear feet of streamside vegetation. Streamside vegetation plantings are riparian vegetation plantings that occur within 15 feet (horizontal distance) of the edge of the wetted channel (i.e., summer low flow channel). Locations of proposed revegetation sites, which include SRA cover mitigation sites, are presented in Plates V-41 through V-53 (in Volume II of the Draft EIR/EIS), revised Plates in Volume V of the Final EIR/EIS, and Exhibit A of the mitigation and monitoring plan (Volume VIII of the Final EIR/EIS). During the first three years of construction, a total of 12,511 linear feet of SRA cover mitigation will be planted (Reaches 6, 7, 10B, and 12). This is over 500 percent of the proposed mitigation before 19 percent of the SRA cover impacts have occurred (Figure 4.14-6).

SRA cover habitat, represented by overhead vegetation and undercut bank in this analysis, is a Resource Category 2 habitat. The USFWS's mitigation goal for a Resource Category 2 habitat is no net loss of linear feet, area, and habitat value. USFWS, in their draft Coordination Act Report, concluded that instream and overhead cover variables should be replaced at a ratio not less than 1:1 in terms of linear feet, area, and habitat value (U.S. Fish and Wildlife Service 1993). Implementing the proposed mitigation measures would result in no net loss of overhead vegetation and undercut bank.

Table 4.14-6 summarizes existing and affected overwater vegetation by reach and post-project revegetation that would result from implementing Mitigation Measure V-1(MVI). Mitigation values for SRA vegetation were computed by planimetering the length of stream on the plate volumes where mitigation plantings (i.e., woody riparian) is proposed for planting. Only plantings proposed within 15 feet (horizontal distance) of the low flow channel were considered in the tabulation based on input received by the USFWS. SRA cover mitigation quantities reported in the Draft EIR/EIS were determined by multiplying the length of stream, where revegetation with riparian species that were within the 15-foot criteria was proposed, by a factor of 0.85. This 0.85 factor takes into account that gaps in canopy cover that will occur as the planted vegetation reaches maturity. In other words, the actual length of bank that is proposed for revegetation exceeds the amount of SRA needed by about 18-percent to ensure that the minimum 1:1 replacement ratio of SRA cover is met at vegetation maturity. The 0.85 multiplier was empirically derived by comparing SRA cover length to natural bank length in a section of stream near downtown San Jose that supported mature riparian vegetation.

The District will monitor SRA planting sites over the life of the project (i.e., annually for the first 5 years and every 5 years after for a total of 40 years) to ensure that they achieve the minimum 50 percent shade assumed in the analysis.

The District would mitigate for the loss of 1,260 linear feet of undercut banks through a combination of several factors. For example, undercut banks would be expected to form in natural bank areas of reaches where streamside vegetation plantings are proposed (e.g., Reaches 7, 10B, and 11B). At least 2,217 linear feet of new vegetative cover would be established along affected banks, which is almost two times the number of linear feet needed for the loss of undercut bank. In addition, in Reach 11 the District would, in consultation with DFG, NMFS, and USFWS, design and install approximately 600 feet of appropriate revetment materials to create undercut-bank habitats. Undercut banks would be constructed using native materials, such as rootwads with attached tree trunks or other materials approved by the resource agencies (i.e., DFG, NMFS, USFWS). The combination of natural regeneration of undercut banks resulting from revegetation and undercut-bank construction would provide the necessary 1:1 replacement ratio needed to ensure no net loss of this habitat feature. See the mitigation and monitoring plan (Volume VIII) for design concepts for constructed undercut bank features. These plans will be coordinated with NMFS.

Because construction of undercut banks would be limited to areas already affected by project construction or break without SRA cover (and in most cases integrated into the construction of the project feature), no new impacts on SRA cover would be expected to occur. Construction of undercut banks would provide immediate benefits to fish, while the combination of SRA cover vegetation plantings and naturally occurring undercut banks would provide fish with benefits over the long-term. This measure would provide for no net loss of undercut banks. Mitigation areas having constructed undercut banks would be evaluated annually for five years and then once at 10, 15, and 20 years post-construction to determine whether created undercut banks are functioning properly. If monitoring determines that constructed undercut banks are not meeting their intended goal, the District would consult with DFG and USFWS, initiate remedial actions, and continue monitoring for an additional five years. Remedial actions could include redesign of revetment or other appropriate mitigation based on negotiations with DFG and USFWS.

In addition, the effects of losing undercut banks, overhead cover and stream shading on fish would be further compensated by implementing Mitigation Measure V-1(MVI), which recommends that the District prepare and implement an integrated vegetation mitigation plan to compensate for removal of vegetation, including SRA habitat. Successful implementation of this measure and proposed reductions in in-channel vegetation maintenance throughout all project reaches, would result in an overall net increase in overwater vegetation and undercut banks, provide for more continuous shading over the entire project area, provide additional assurances that impacts would be reduced to a level of insignificance and be consistent with the USFWS requirement of "no net loss of aquatic habitat values or acreage."

Mitigation Measure F-2(MVI): Improve Fish Passage Conditions to Suitable Salmonid Habitat on Guadalupe Creek. The District would improve fish passage on Guadalupe Creek at:

a) Stream Gage Station No. 43, and

b) a channelized stream reach midway between the Pheasant Creek confluence and Reynolds Road (Figure 4.14-3).

Fish passage structures would be designed in consultation with DFG and USFWS and incorporate engineering considerations and biological criteria to ensure that adequate fish passage is maintained.

Implementation of Mitigation Measure F-2(MVI) would provide chinook salmon and steelhead trout access to 1.3 miles of stream habitat upstream of Masson Dam.

The District will implement a monitoring program of fish passage improvements at the channelized stream reach midway between the Pheasant Creek confluence and Reynolds Road and at Stream Gage No. 43. Visual surveys will be conducted at each location from October 1 through April 30 (when adult chinook salmon and steelhead migrate) until it is demonstrated that the sites do not impede fish passage. The District, through its general maintenance program, will ensure that the sites are free of obstructions and debris that could block passage during the rainy season (i.e., October 1 through April 30).

The District would submit an annual monitoring report to DFG for up to five years after completion of fish passage improvements. In addition to monitoring passage, the District would evaluate indicators of passage problems, such as fish congregating downstream of the fish passage improvements or failed attempts by fish to negotiate the fish passage improvements. If fish passage objectives have not been met and is not due to factors beyond the District's control (e.g., drought, natural downstream barriers, or limited number of fish), remedial actions would be initiated and monitoring would continue for up to an additional five years. Remedial actions could include redesign of structural improvements.

~~Under the MVI Alternative, the following impacts would be similar to those of the Preferred Project:~~

- ~~Potential for acute and chronic toxicity to fisheries and reduced fish productivity resulting from construction-related activities;~~
- ~~Increase in habitat availability for migrating steelhead trout and chinook salmon resulting from removing partial fish barriers;~~
- ~~Potential for fish entrapment or delays in migration from the operation of bypass channels;~~
- ~~Potential for reduced fish migration and spawning success in the Guadalupe River resulting from changes in hydraulic characteristics associated with bypass channel operations; and~~

- ~~Potential for reduced gravel quality and abundance resulting from bypass operations that reduce the incidence and magnitude of gravel flushing flows and channel maintenance flows.~~

~~The following impacts would be similar to those of the Preferred Project but would be reduced by construction of a bypass channel in Reaches 9-10A and Reaches 10C-11:~~

- ~~Potential for sedimentation and turbidity; and~~

- ~~Reduction in in-stream cover and shade associated with periodic vegetation removal and disturbance for floodway maintenance.~~

~~Levels of significance and mitigation requirements for the above impacts would be the same as for the Preferred Project. Successful implementation of mitigation measures required for these impacts under the Preferred Project would also reduce impacts to less-than-significant levels under the MVI Alternative.~~

~~The following impact would be substantially different from that of the Preferred Project.~~

~~**Impact: Reduction in Shaded Riverine Aquatic Habitat by the Direct Removal of 1,260 Linear Feet of Undercut Streambank and 2,490 Linear Feet of Overwater Vegetation.**~~ ~~Implementing the MVI Alternative would result in the loss of 1,260 linear feet of undercut streambank and 2,490 linear feet of overwater vegetation. Substantially less undercut banks and shade-generating vegetation would be affected in Reaches 9-10A and 10C-11A under this alternative than would be affected under the Preferred Project (Table 4.14-4).~~

~~This impact is considered significant, as described for the similar impact under the Preferred Project. The District would implement Mitigation Measures F-2 and V-1 (see descriptions under "Impacts of the Proposed Project" above). Mitigation Measures F-2 and V-1 would be implemented with a smaller level of habitat development in proportion to the smaller level of impact. Successful implementation of these measures would reduce the impact to a less-than-significant level.~~

Response to Comment 242-7

The comment questions why the MVI alternative would not have an overall beneficial impact on hydrology.

Because it also provides flood protection, the MVI Alternative will have a beneficial impact on hydrology, and the EIR/EIS has been modified accordingly.

Page 1.24. Table 1.4 has been modified to change the symbol for the Hydrology Impact of the MVI Alternative to "*" — indicating "Overall Beneficial Impact."

Response to Comment 242-8

The comment asks for verification that the cost of construction in Reach 10 for the preferred alternative is greater than the MVI alternative.

The cost of construction in Reach 10 for the preferred alternative is greater because of extensive cribwall construction proposed adjacent to Almaden Road. The total cost of the Preferred Project is less because the MVI alternative requires additional right of way.

Response to Comment 242-9

The comment notes that the reasons for eliminating the stream restoration alternative, which may be the most environmentally beneficial alternative in the long-term, may mean that the alternative does not comply with the 404(b)(1) requirement to select the least environmentally damaging, practicable alternative.

See Master Response A.

Response to Comment 242-10

The comment questions if the regulatory agencies had bought into the concept of establishing mitigation bank as specified in the report and whether approval of the mitigation bank concept is a determinant factor for operations of District's future maintenance program.

The regulatory agencies have commented on it but there is no major agency opposition to the concept. The District's Maintenance Program EIR will address the impacts and mitigations for operations of District's future maintenance program. This project has estimated, based on past maintenance records, future maintenance needs and plan to set aside an amount of mitigation needed for this estimated maintenance, over and above that required for project construction.

Response to Comment 242-11

The comment requests that a chart be used to illustrate additional structures needed in Reach 9 for the MVI alternative compared to the Preferred alternative.

A comparison chart for number of structures removed by each alternative has been included in the Engineer's Report.

Response to Comment 242-12 and 242-13

The comment wants to clarify the statement in the report that says if the MVI alternative is implemented, the District should evaluate the water supply need for groundwater recharge and consider compensating for the loss of recharge by creating additional offstream capability.

The EIR/EIS authors agree and the text in the report has been revised to further clarify the statement.

Page 3-53. The following sentence has been moved from the end of the fourth paragraph to the end of the third paragraph under Reach 12:

> About 18.5 acres of off-stream recharge ponds would be created in Reach 12 to replace the loss of in-stream and off-stream percolation ponds.

Page 4.2-12. The fourth sentence in the first paragraph has been deleted and replaced with the following text.

> About 18.5 acres of off-stream recharge ponds would be created in Reach 12 to replace the loss of in-stream and off-stream percolation ponds. ~~If this alternative were implemented, the District should evaluate the water supply need for groundwater recharge and consider compensating for this loss of recharge area by creating additional off stream or groundwater injection recharge capability.~~

Response to Comments 242-14

The comment suggests that the District's legislative representative investigate the possibility of an exemption through CERCLA to say that if a public entity is going in to do a project for public safety reasons and has purchased the right of way, they do not thereby become a potentially responsible party.

This suggestion has been forwarded to the District's legislation analyst.

Response to Comment 242-15

The comment requests that terms like "limited" used in the report should be clarified.

The EIR/EIS authors agree and the text in the report has been revised to further clarify this.

Page 4.5-12. The last sentence in the last paragraph has been revised as follows:

> However, there would be fewer access points for recreational users ~~would be more limited~~ than with the Preferred Project.

Response to Comment 242-16

The comment asks if any analysis was done regarding air quality benefits of increased vegetation in the valley.

Analysis of air quality impacts is focused on determining whether project activities would affect levels of criteria pollutants, which are those compounds for which the state or federal government have established ambient air quality standards. Emissions of dust and equipment exhaust during construction were calculated, and the results are reported on pages 4.9-5 through 4.9-7 of the Draft EIR/EIS. Emissions associated with construction of the Minimize Vegetation Impacts Alternative were characterized qualitatively, based on the fact that additional activities would be required for bypass construction. It would be overly speculative to attribute different effects on criteria pollutants based on the level of vegetation that would be present after implementation of the different alternatives. Neither the EPA nor the Bay Area Air Quality Management District (BAAQMD) has developed protocols for assessing and quantifying the effects of vegetation on criteria pollutant levels. Planting vegetation is not recognized by the BAAQMD as an acceptable mitigation measure under CEQA for reducing impacts from air pollutants.

Response to Comment 242-17

The comment references the wildlife section (page 4.13-25) and potential inconsistencies with regard to the presentation of the MVI Alternative. The comment noted that there would be less habitat fragmentation with the MVI Alternative.

The EIR/EIS authors agree that there would be less habitat fragmentation under the MVI Alternative. See Response to Comment 242-6.

Response to Comment 242-18

The comment recommends that the EIR/EIS include a discussion about the listing of Steelhead.

Refer to Response to Comment 2-5.

Response to Comment 242-19

The comment questions why information from 1954 was used to describe steelhead in the Guadalupe River.

Because little information is available on the life history of Guadalupe River steelhead (as is the case for most populations of steelhead), the EIR/EIS authors used the information contained in Shapovalov and Taft's (1954) report to present the basic life history characteristics of the species. Shapovalov and Taft's report continues to be one of the most comprehensive studies of this species' life history and was responsible for establishing many of the current management objectives for the state's steelhead resources. Chapter 4.14, "Fisheries," also includes a summary of habitat requirements for steelhead based on Smith (1982) and Raleigh et al. (1984), as well as recent records from the District. In addition, detailed information on steelhead in the upstream tributaries is now included (see Master Response J).

Response to Comment 242-20

The comment states that part of the project should include monitoring and extraction of any stranded fish in the bypass channel.

The design of the bypass channel slopes the invert toward the west bank to create a low flow channel that would provide fish with adequate water depths as flows recede, which would reduce the potential for fish entrapment to an insignificant level of impact.

Response to Comment 242-21

The comment asks whether coho salmon were listed at the time the Draft EIR/EIS was prepared.

NMFS published its determination to list the Central California Coast Evolutionarily Significant Unit (ESU) of coho salmon as threatened under the federal Endangered Species Act on October 31, 1996 (61 FR 41514); the draft EIR/EIS was released for public comment in January 1997. Refer also to Response to Comment 13-44.

Response to Comment 242-22

The comment questions if there is any relationship between EPA's recommendations to investigate the stream restoration alternative and the fisheries management plan being developed for the County.

See Response to Comment 10-33.

Response to Comment 242-23

The comment asks if staff agreed there are channel inadequacies downstream referring to the comment from the Corps of Engineer's that the proposed project will not function until the downtown project is completed.

The EIR/EIS authors agree; however, the authors emphasize that every stage of construction will provide some protection.

Response to Comment 242-24

The comment questions the impacts of a recommendation by regulatory agencies and others of the denial of the Corps permit.

The EIR/EIS authors will be responding to all the comments on the draft plan and the Corps of Engineers will make their decision based on their evaluation of the adequacy of the responses. The District has been working closely with the Corps during preparation of the EIR/EIS and the Response to Comments. If the Corps determines that a permit should be denied, then the Project will be modified to address their concerns.

Response to Comment 242-25

The comment asks what would be required to complete a conformity analysis as discussed in the comment letter from the EPA.

Comment 3-18 from the EPA requested additional quantification of air emissions during construction to determine whether there is a need for an air quality conformity analysis. Under the EPA's general conformity rule, a detailed analysis of conformity with state air quality implementation plans is required if a project exceeds the established de minimus level of emissions. The additional information provided in Response to Comment 3-18 shows that the flood control project would not exceed the 100 tons per year de minimus threshold for the criteria pollutants carbon monoxide, reactive organic compounds or nitrogen oxides. Therefore a conformity analysis will not be required.

Response to Comment 242-26

The comment concurs with the statement on page 38 of the comment letters that states, "we are concerned the impact documentation essentially addresses only one issue (flood control)..." and questions if because of the District mission there were limits on addressing other issues. The comment states that permit issues should not be a blockage to selecting Stream Restoration alternative.

The District's mission is sufficiently broad to address these or related issues. The Stream Restoration Alternative was not selected because preliminary impact analyses (see Master Response A) shows that it would have significant initial impacts on fish habitat, including water temperature. The National Marine Fisheries Service has indicated that this alternative would affect fisheries much more than the Preferred Project.

Response to Comments 242-27 and 242-28

The comment questions if there was a way to expedite the construction schedule.

The current construction schedule is based on no federal funding and that benefit assessment funding continues at the current rate. Additional funding could accelerate the construction schedule.

Response to Comment 242-29

The comment requests that a comment be made responding to the bio-engineering slope protection measures (Comment 5-7), the mercury contamination problem (Comment 5-18) and the potential recommendations against certification (Comment 5-19).

The District is proposing to use bio-technicial methods for erosion control wherever it is feasible as detailed in Appendix C of the Draft EIR/EIS. See Master Response C and Responses to Comments 5-18 and 5-19.

Response to Comment 242-30

The comment expresses confusion about why City staff at the public hearing was supportive of the project and stated that it met the goals of the City's General Plan and yet the City's comment letter seems to state that the project was inconsistent with the City's General Plan.

The City's comment was on the proposed easement and construction staging areas on the west bank of the Guadalupe River in Reach A. Staff is meeting with City's Airport staff to coordinate the design.

The Preferred Project was developed in close coordination with City staff to make sure that the project elements are complementary with the City's General Plan.

Response to Comment 242-31

The comment mentions that this may be the opportunity to look at tradeoffs that have to be made environmentally when addressing the comprehensive nature of what is being done.

The proposed project has attempted to incorporate all elements including cost, social impacts, the continuity of riparian corridor, the continuity of fish passage, as well as recreational trail where possible.

Response to Comment 242-32

The comment references a comment from Lifeweb and the concern that the report is heavily weighted toward the Preferred Project and that the MVI Alternative received less consideration (Comments 14-16 and 14-17). The comment also stated that the stream restoration alternative was not adequately presented in the draft EIR/EIS.

See Response to Comment 14-16 and 242-6. See also Master Response A.

Response to Comment 242-33

The comment requests that the report highlights the fact that the project will only happen if there are funds.

The EIR/EIS authors agree and text in the report has been revised to highlight the fact.

SECTION 14.5

STAFF-INITIATED TEXT CHANGES

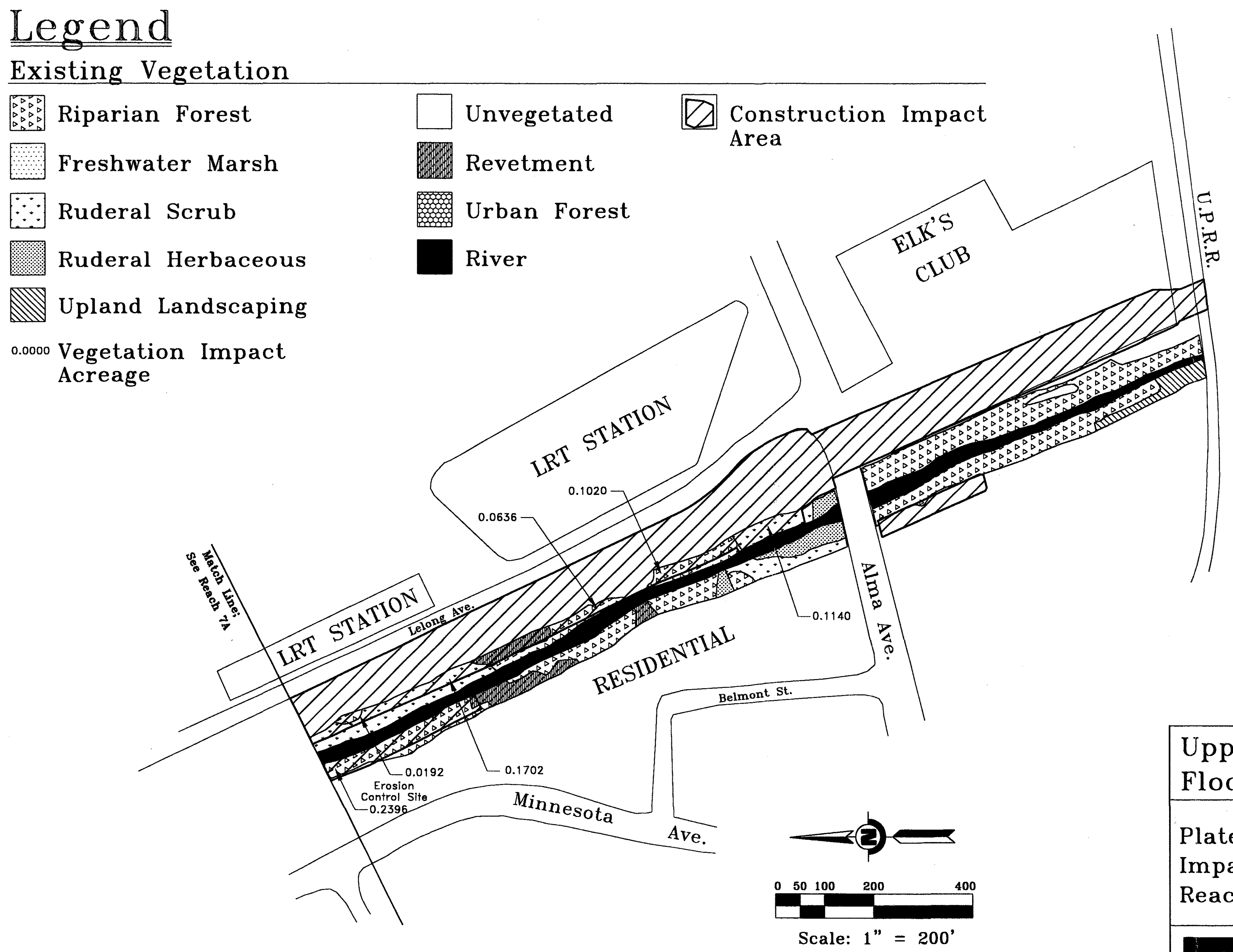
SECTION 14.5

STAFF-INITIATED TEXT CHANGES

INTRODUCTION

In response to comments on the Draft EIR/EIS and to maximize the creation of near-stream habitat, especially shaded riverine aquatic (SRA) cover, the District has proposed: (1) modifications to Reaches 10A and 11 to enable planting of an additional 3,076 linear feet of SRA cover, (2) the deletion of an access ramp in Reach 7, (3) the relocation of Stream Gage Station 23B to the downstream end of Reach 10B, and (4) establishment of a wetland mitigation reserve in Ross Creek and relocation of wetland mitigation from Reach 10B to Reach 12 to avoid conflicts with SRA vegetation planting. Text changes to the Draft EIR/EIS have been made to reflect these changes in the project, correct typographical errors, correct terminology, or clarify wording. Some additions have been made to expand or amplify existing text. Some revisions have been made to reflect changes that have occurred since the publication of the Draft EIR/EIS. None of these changes constitute new information leading to new significant impacts or substantial increases in the severity of significant impacts. Revisions to Plates originally distributed in Volume II of the Draft EIR/EIS have been made to reflect changes to the project and are included in this section.

For a complete presentation of all text changes, including those made by staff and those made in response to comments, the reader is referred to Volume VI of this EIR/EIS, where all text changes are shown in revision mode. New text is underlined and deleted text is shown in ~~strikeover~~.



Upper Guadalupe River Flood Control Project

Plate V–27 (Revised August 1999)
Impacts on Vegetation in Reach 7B

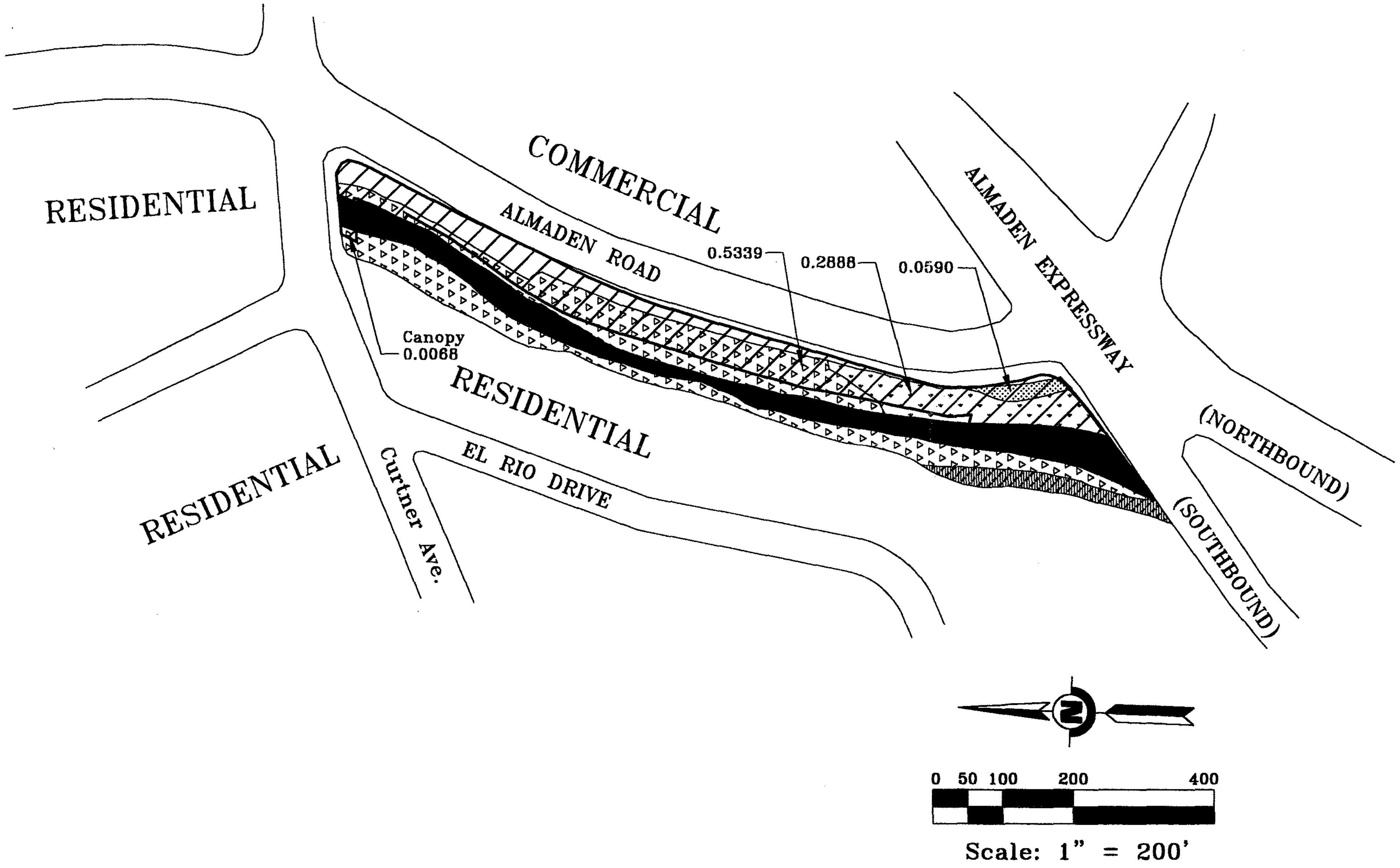
Jones & Stokes Associates
2600 V Street, Suite 100
Sacramento, CA 95818

Note: The maintenance ramp originally proposed for the east bank upstream of Alma Avenue has been deleted. There will be no riparian impacts in this location.

Legend

Existing Vegetation

- ▹ Riparian Forest
- ░ Freshwater Marsh
- ∴ Ruderal Scrub
- ▒ Ruderal Herbaceous
- ▧ Upland Landscaping
- ☐ Unvegetated
- ▩ Revetment
- ▦ Urban Forest
- ■ River
- ▨ Construction Impact Area
- 0.0000 Vegetation Impact Acreage

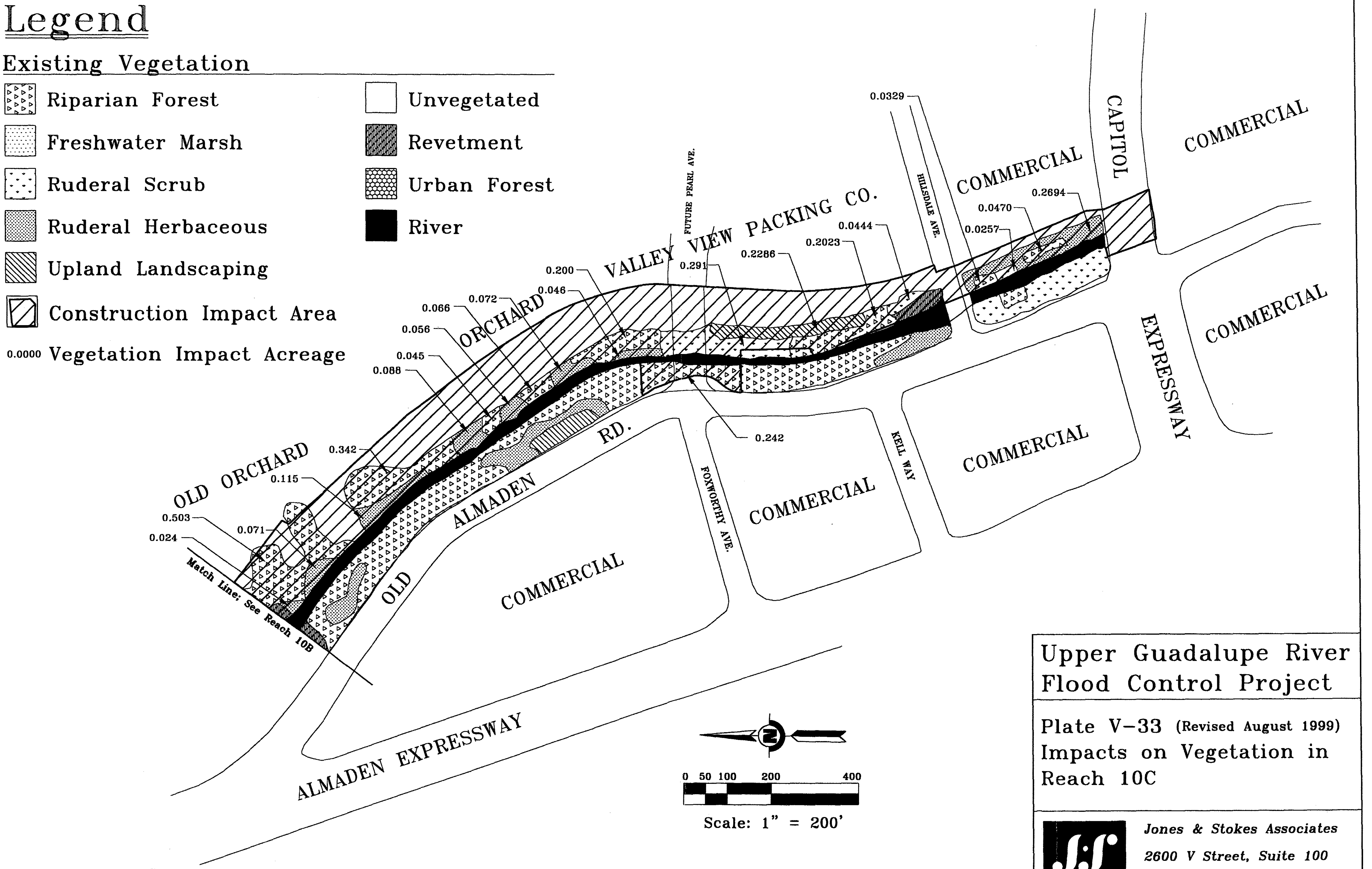


Note: The existing ruderal scrub habitat will be impacted for approximately 200 feet downstream of Almaden Expressway due to overflow weir construction for the proposed floodway.

Upper Guadalupe River Flood Control Project

Plate V–31 (Revised August 1999)
Impacts on Vegetation in Reach 10A

Jones & Stokes Associates
2600 V Street, Suite 100
Sacramento, CA 95818

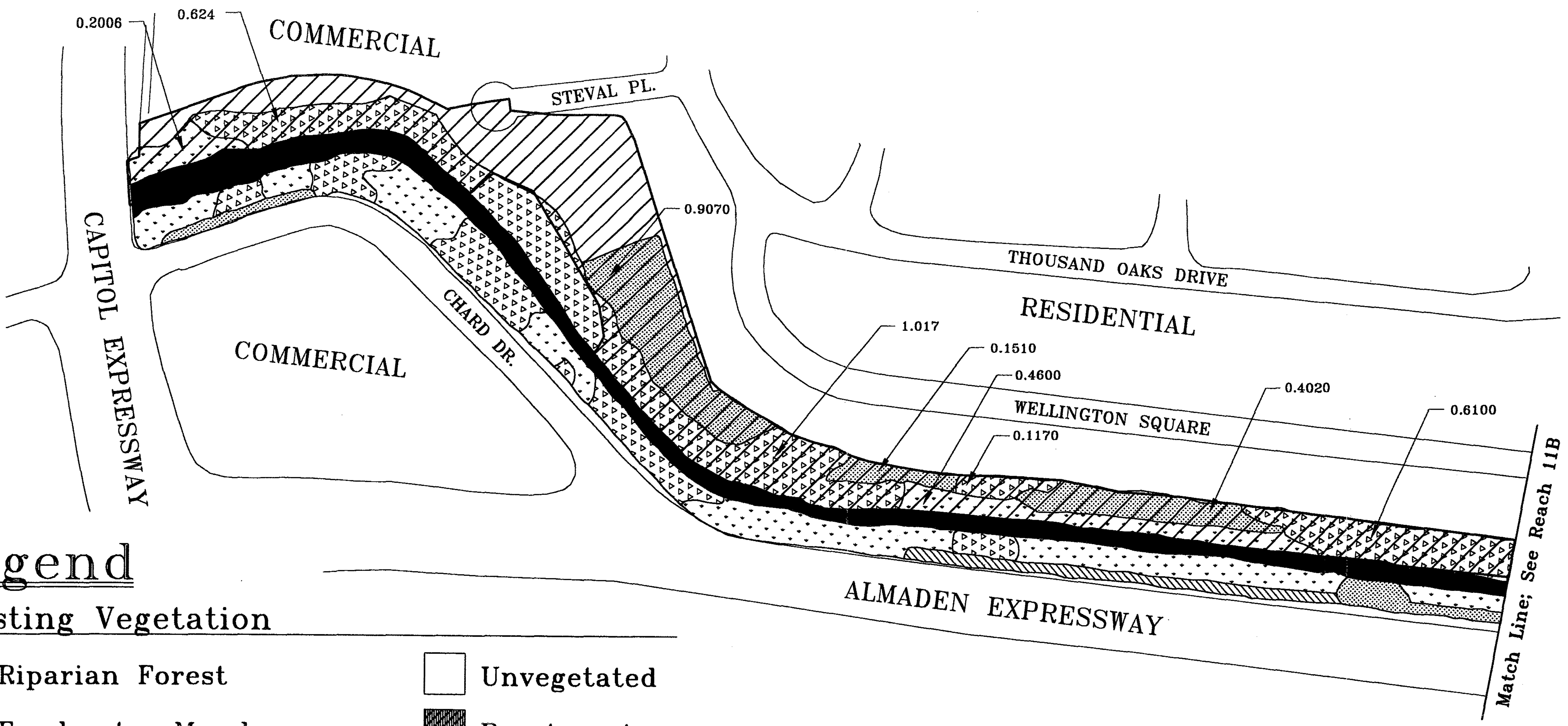


Note: The future Pearl Avenue bridge crossing was added to this reach resulting in additional impacts.

Upper Guadalupe River Flood Control Project

Plate V-33 (Revised August 1999)
Impacts on Vegetation in Reach 10C

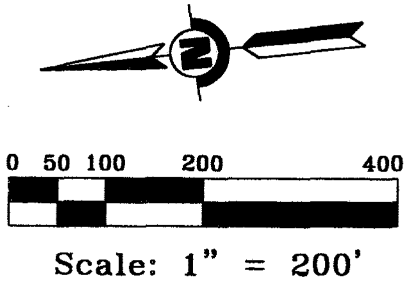
Jones & Stokes Associates
2600 V Street, Suite 100
Sacramento, CA 95818



Legend

Existing Vegetation

▨ Riparian Forest	☐ Unvegetated
░ Freshwater Marsh	▩ Revetment
░ Ruderal Scrub	▦ Urban Forest
▒ Ruderal Herbaceous	■ River
▧ Upland Landscaping	
▨ Construction Impact Area	
0.0000 Vegetation Impact Acreage	



Scale: 1" = 200'

Note: East bank impact areas revised to reflect modifications to the flood control project.

Upper Guadalupe River Flood Control Project

Plate V–34 (Revised August 1999)
Impacts on Vegetation in Reach 11A

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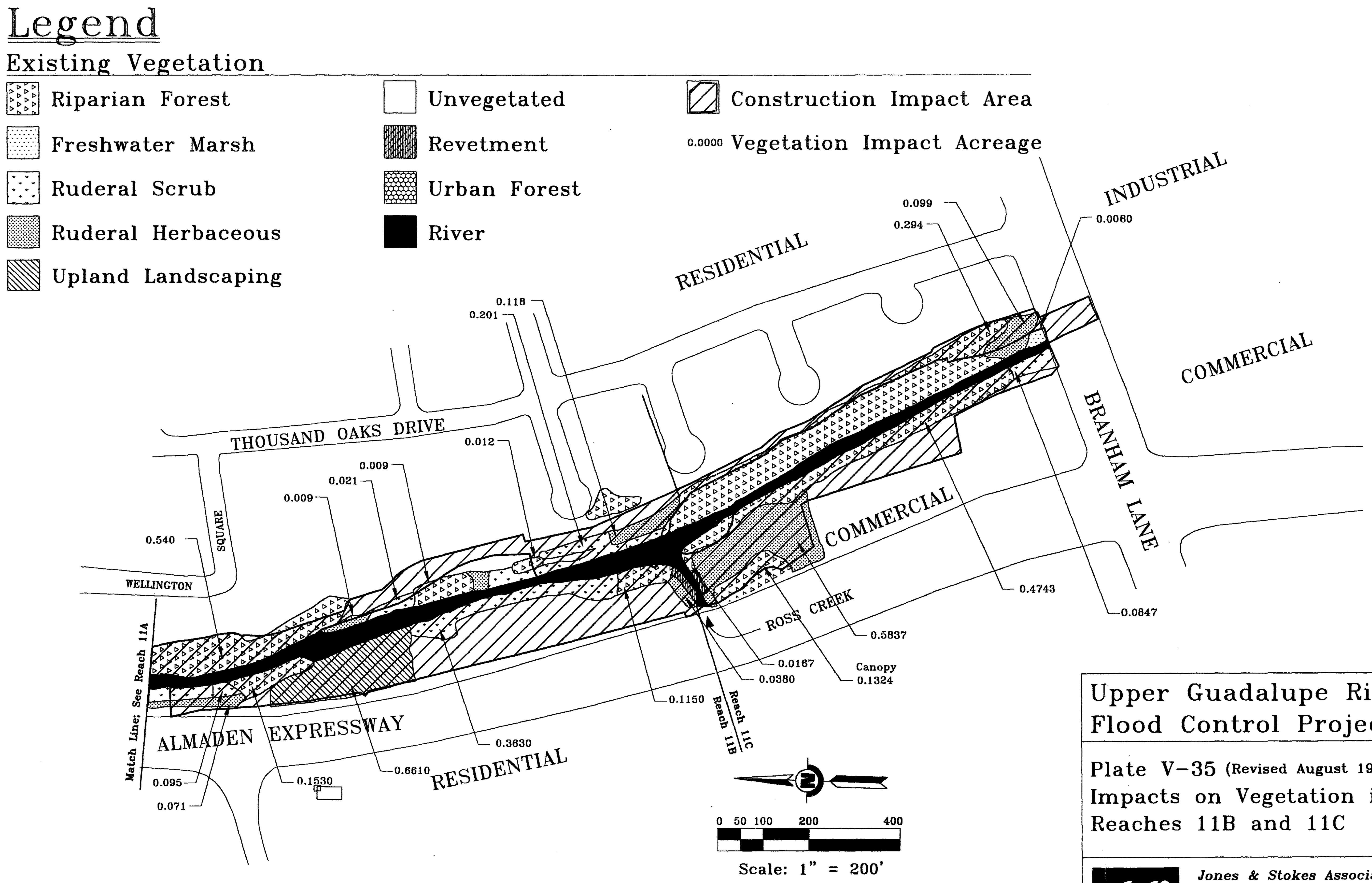
2600 V Street, Suite 100
Sacramento, CA 95818

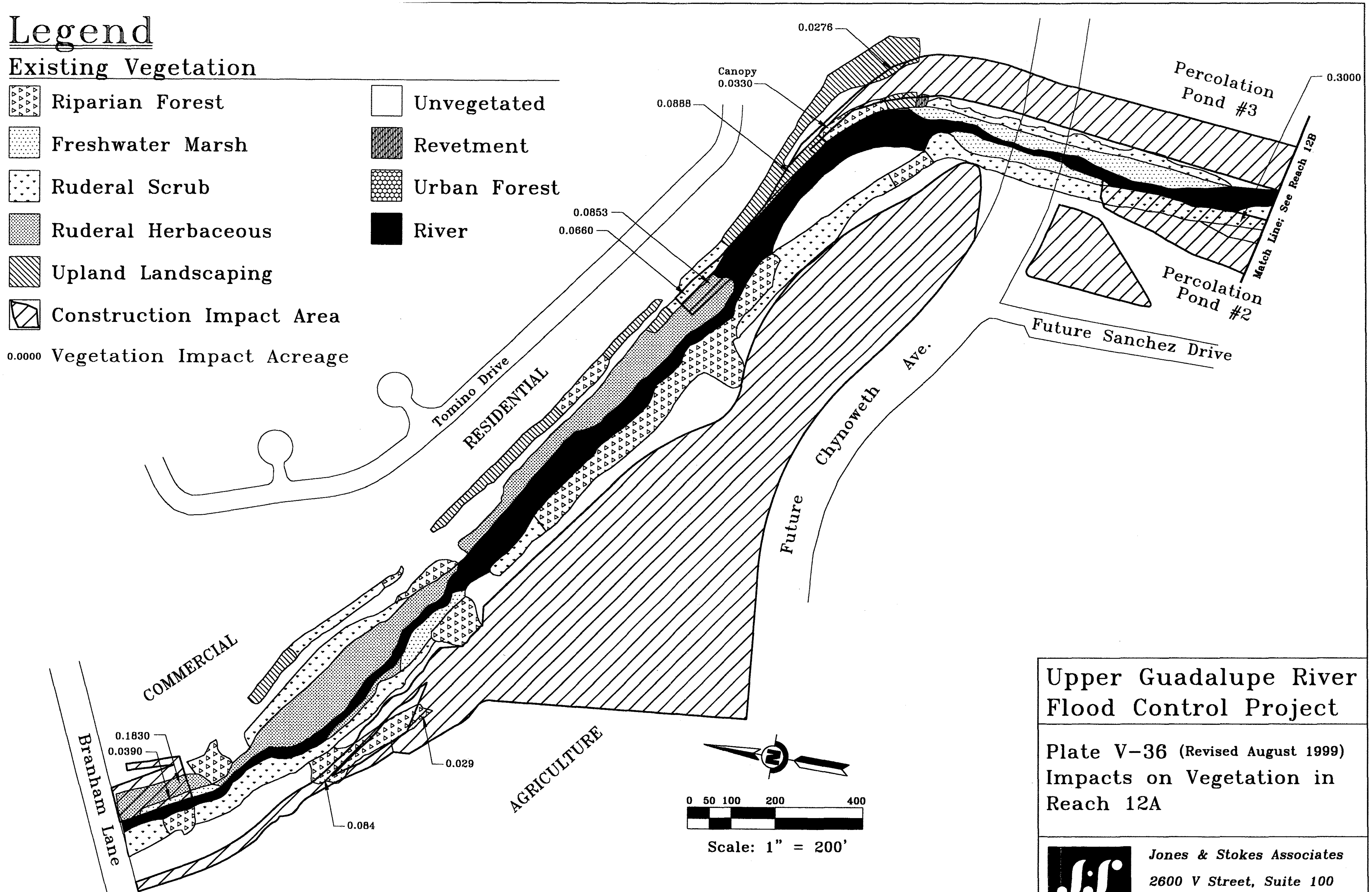


Upper Guadalupe River Flood Control Project

Plate V–35 (Revised August 1999)
Impacts on Vegetation in Reaches 11B and 11C

Jones & Stokes Associates
2600 V Street, Suite 100
Sacramento, CA 95818

Note: East and west bank impact areas revised to reflect modifications to the flood control project.



Note: The location and dimensions of the proposed offstream percolation ponds was modified.

Upper Guadalupe River Flood Control Project

Plate V-36 (Revised August 1999) Impacts on Vegetation in Reach 12A

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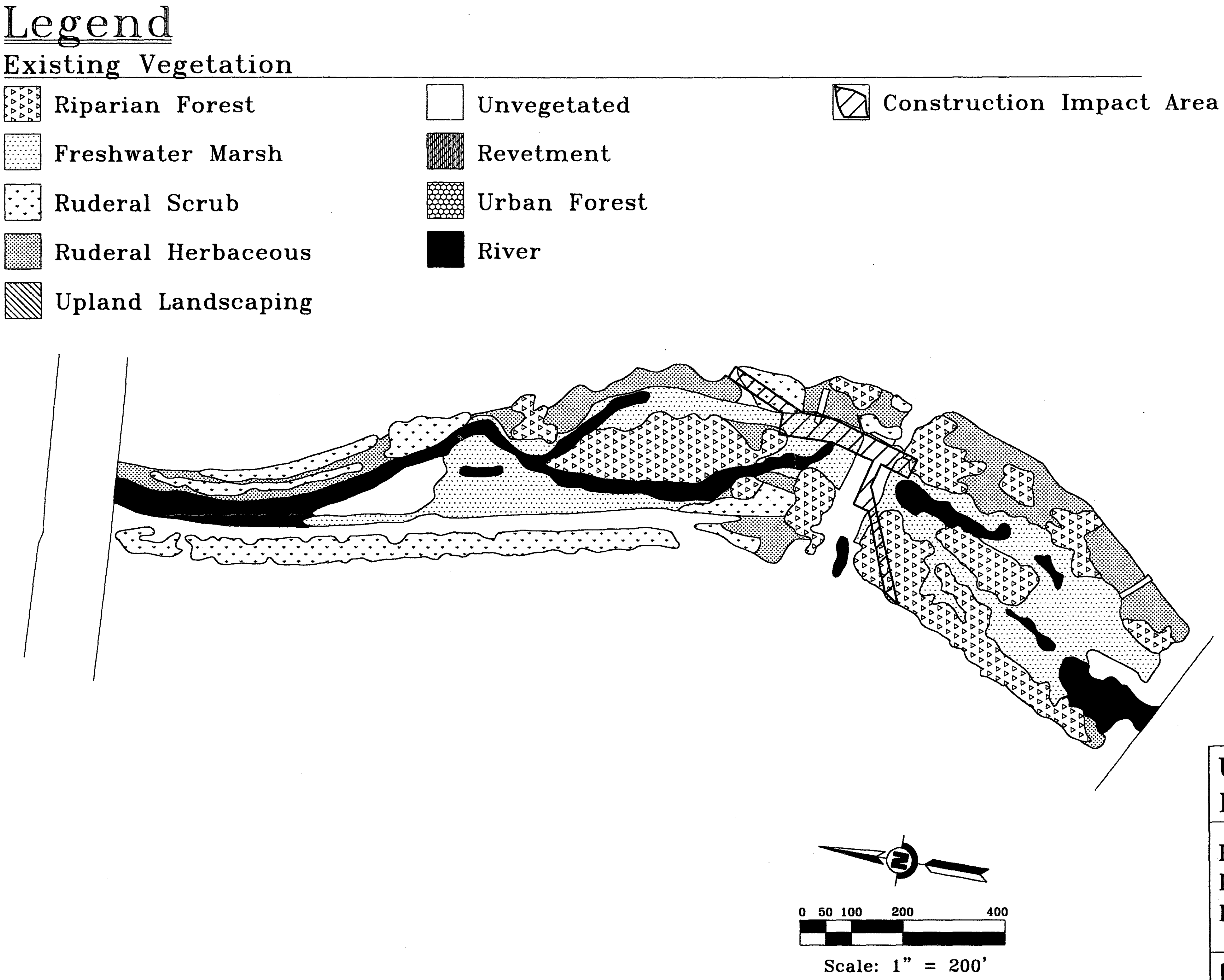
2600 V Street, Suite 100
Sacramento, CA 95818

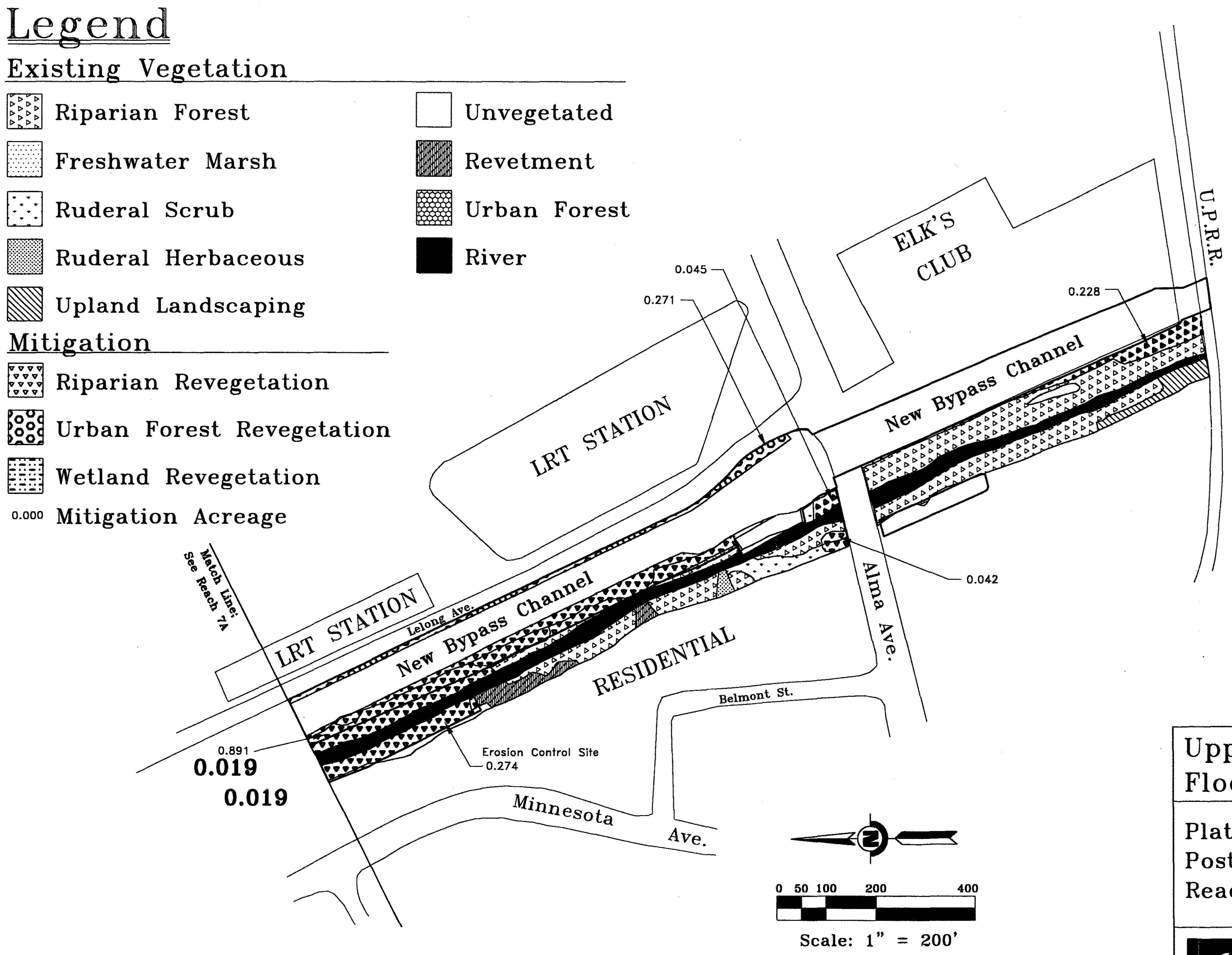


Upper Guadalupe River Flood Control Project

Plate V-37.2 **(Revised August 1999)**
Impacts on Vegetation in Reach 13

Jones & Stokes Associates
2600 V Street, Suite 100
Sacramento, CA 95818

Note: Impacts associated with the Alamitos drop structure fish ladder are not part of the Upper Guadalupe River Flood Control Project.

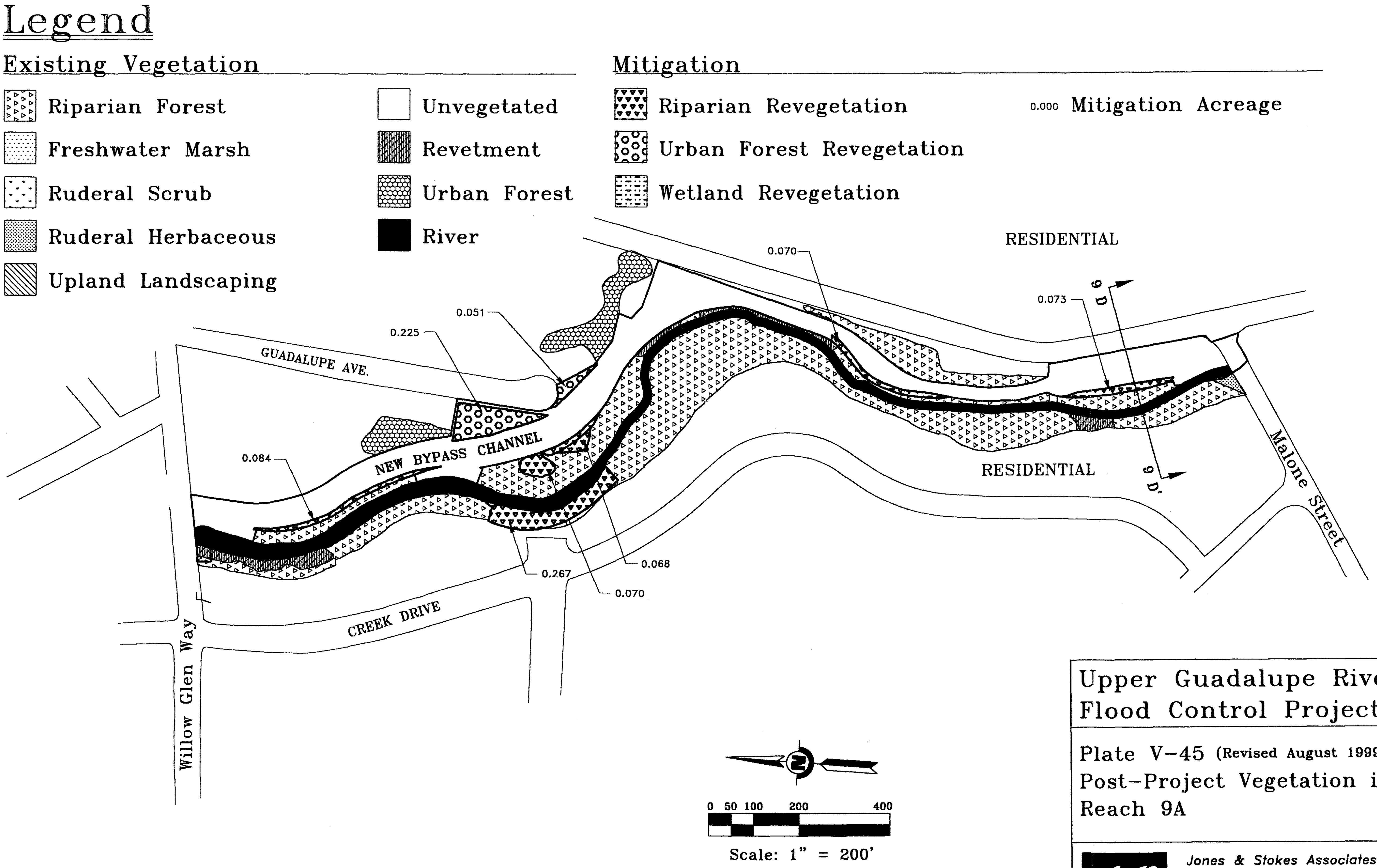


Upper Guadalupe River
Flood Control Project

Plate V–43 (Revised August 1999)
Post–Project Vegetation in
Reach 7B

Jones & Stokes Associates
2600 V Street, Suite 100
Sacramento, CA 95818

Note: Because the proposed maintenence ramp on the east bank upstream of Alma Avenue has been deleted, the existing riparian vegetation will remain under post–project conditions.



Upper Guadalupe River Flood Control Project

Plate V-45 (Revised August 1999)
Post-Project Vegetation in Reach 9A

Jones & Stokes Associates
2600 V Street, Suite 100
Sacramento, CA 95818

Note: The riparian revegetation area originally proposed for the location on the west bank immediately downstream of Malone Street, has been deleted. The existing ruderal herbaceous will remain under post-project conditions.

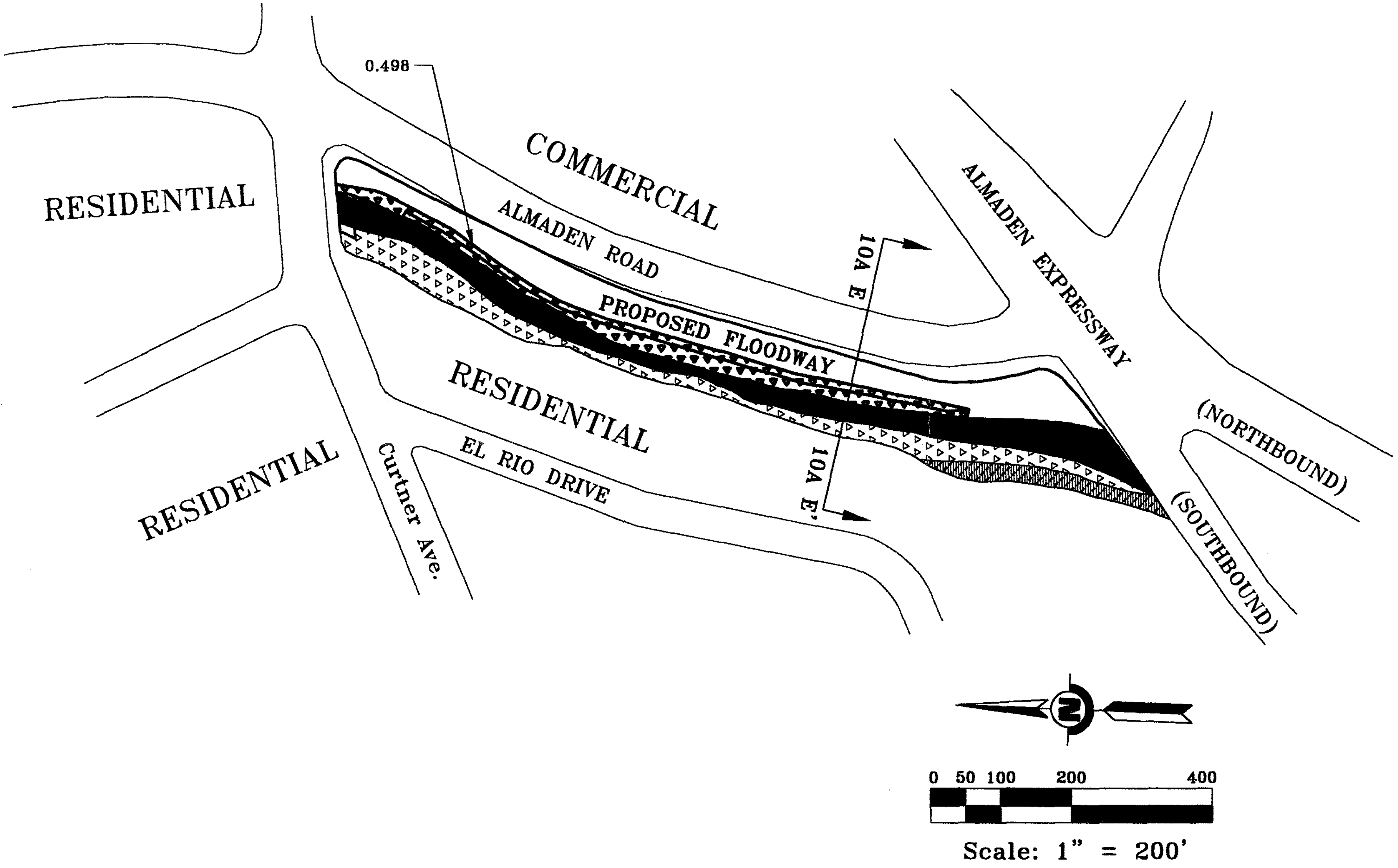
Legend

Existing Vegetation

▷ Riparian Forest
░ Freshwater Marsh
⁘ Ruderal Scrub
▒ Ruderal Herbaceous
▧ Upland Landscaping
□ Unvegetated
▨ Revetment
▩ Urban Forest
■ River

Mitigation

▼ Riparian Revegetation
○ Urban Forest Revegetation
▤ Wetland Revegetation
0.000 Mitigation Acreage

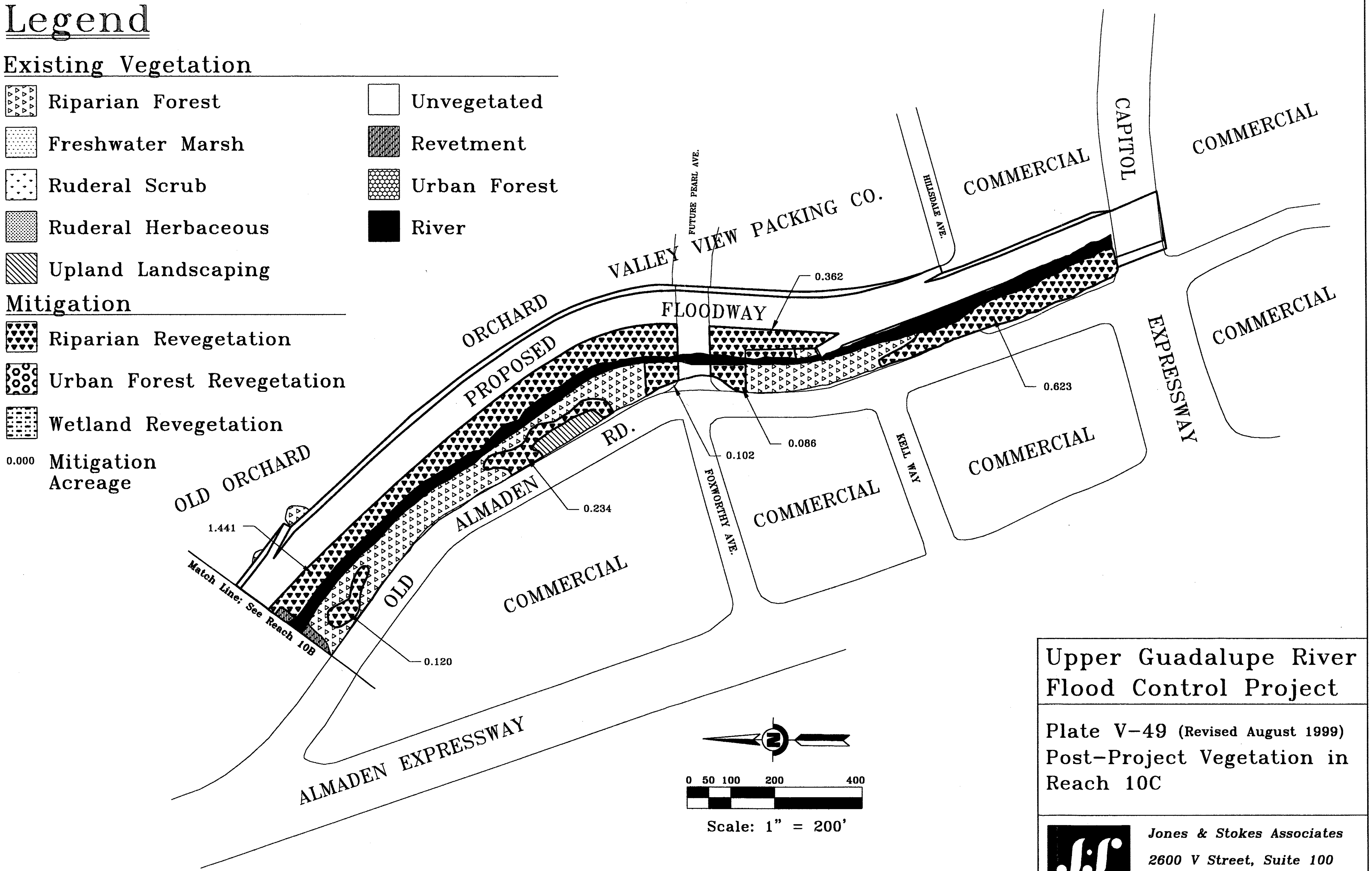


Note: Approximately 200 feet of the east bank downstream of Almaden Expressway will serve as a crossover into the floodway and will be unvegetated.

Upper Guadalupe River Flood Control Project

Plate V–47 **(Revised August 1999)**
Post–Project Vegetation in Reach 10A

Jones & Stokes Associates
2600 V Street, Suite 100
Sacramento, CA 95818



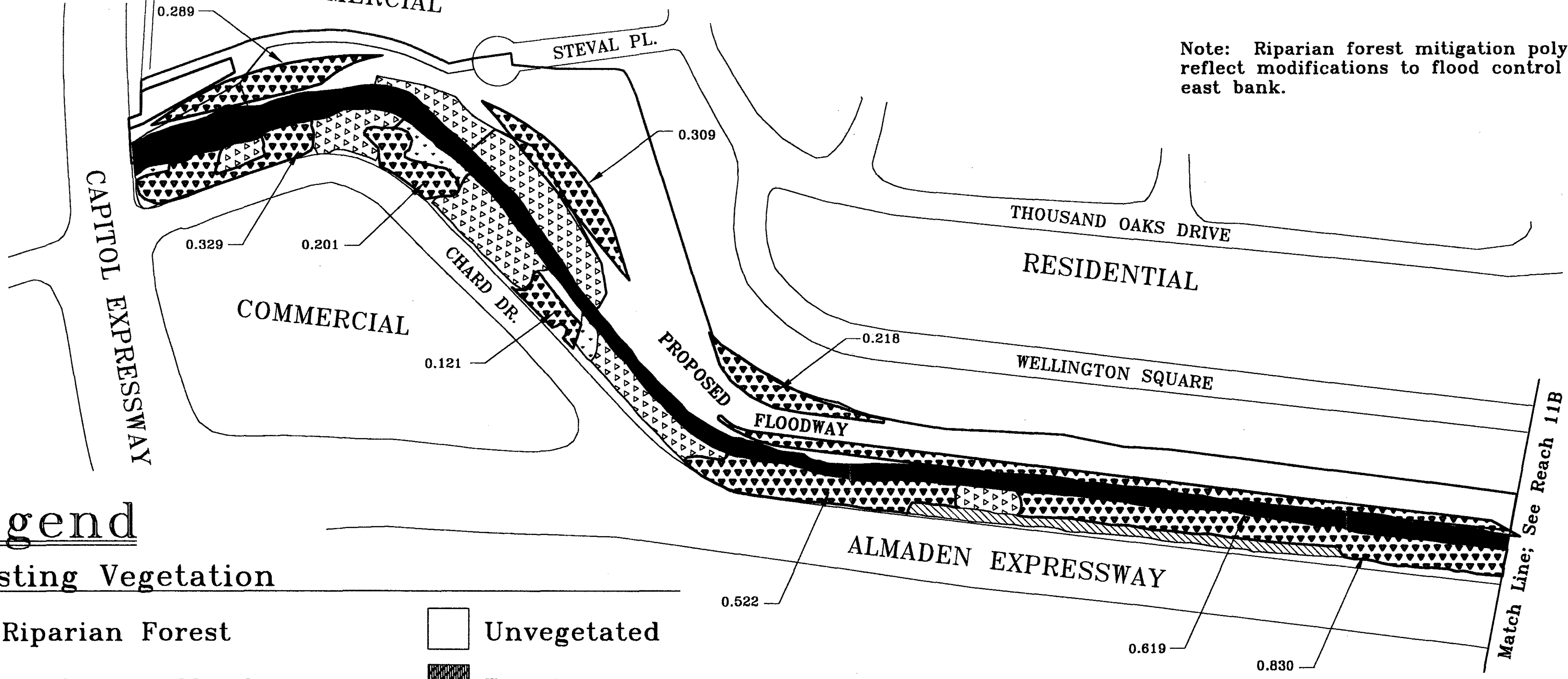
Upper Guadalupe River Flood Control Project

Plate V–49 (Revised August 1999)
Post–Project Vegetation in Reach 10C

Jones & Stokes Associates
2600 V Street, Suite 100
Sacramento, CA 95818

Note: Riparian forest mitigation polygons revised to reflect future Pearl Avenue bridge location.

Note: Riparian forest mitigation polygons revised to reflect modifications to flood control project on the east bank.



Legend

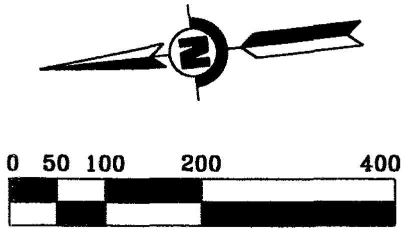
Existing Vegetation

- ▨ Riparian Forest
- ▨ Freshwater Marsh
- ▨ Ruderal Scrub
- ▨ Ruderal Herbaceous
- ▨ Upland Landscaping
- ☐ Unvegetated
- ▨ Revetment
- ▨ Urban Forest
- ■ River

Mitigation

- ▨ Riparian Revegetation
- ▨ Urban Forest Revegetation
- ▨ Wetland Revegetation

0.000 Mitigation Acreage



Scale: 1" = 200'

Upper Guadalupe River Flood Control Project

Plate V-50 (Revised August 1999)
Post-Project Vegetation in Reach 11A

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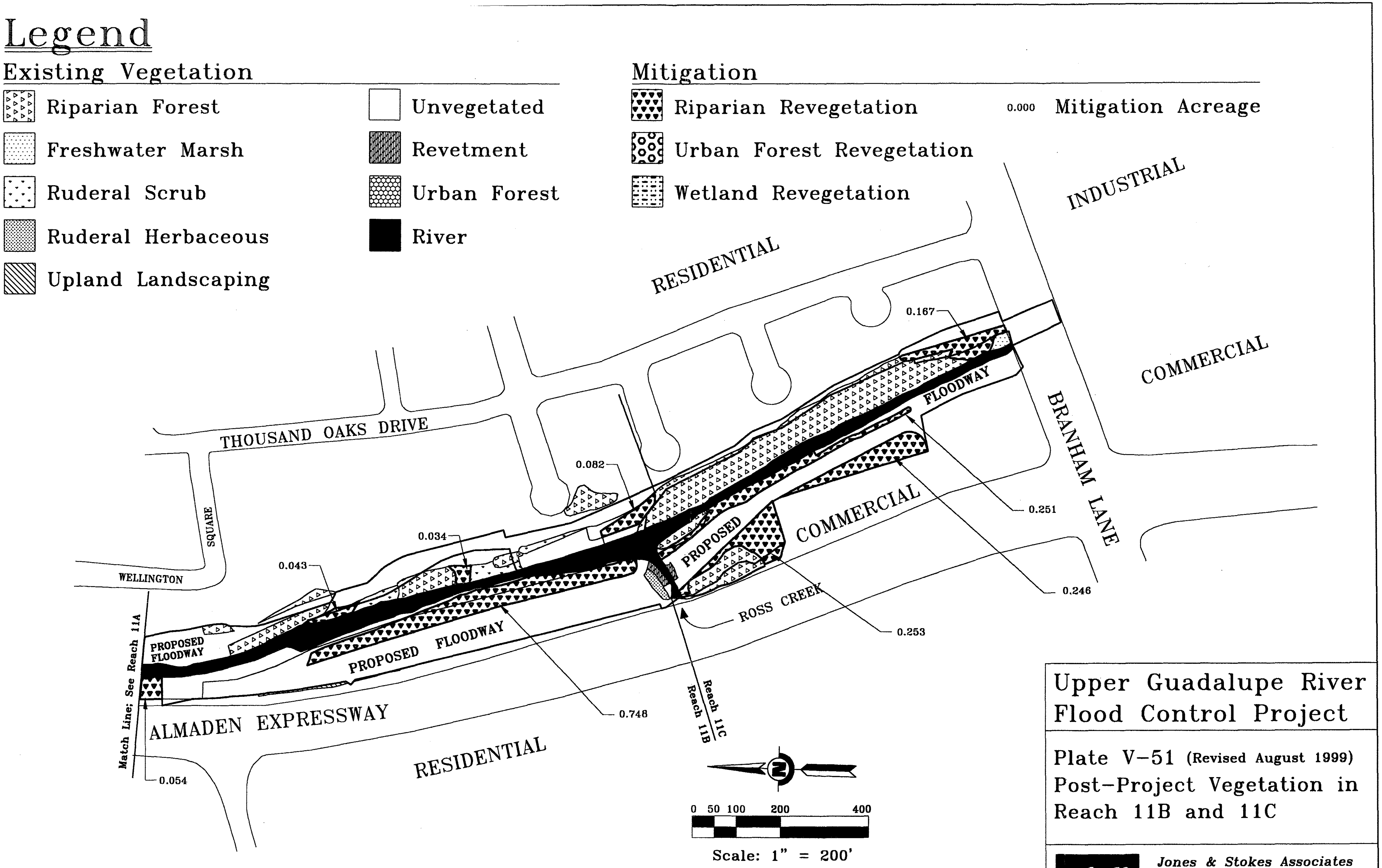
2600 V Street, Suite 100
Sacramento, CA 95818

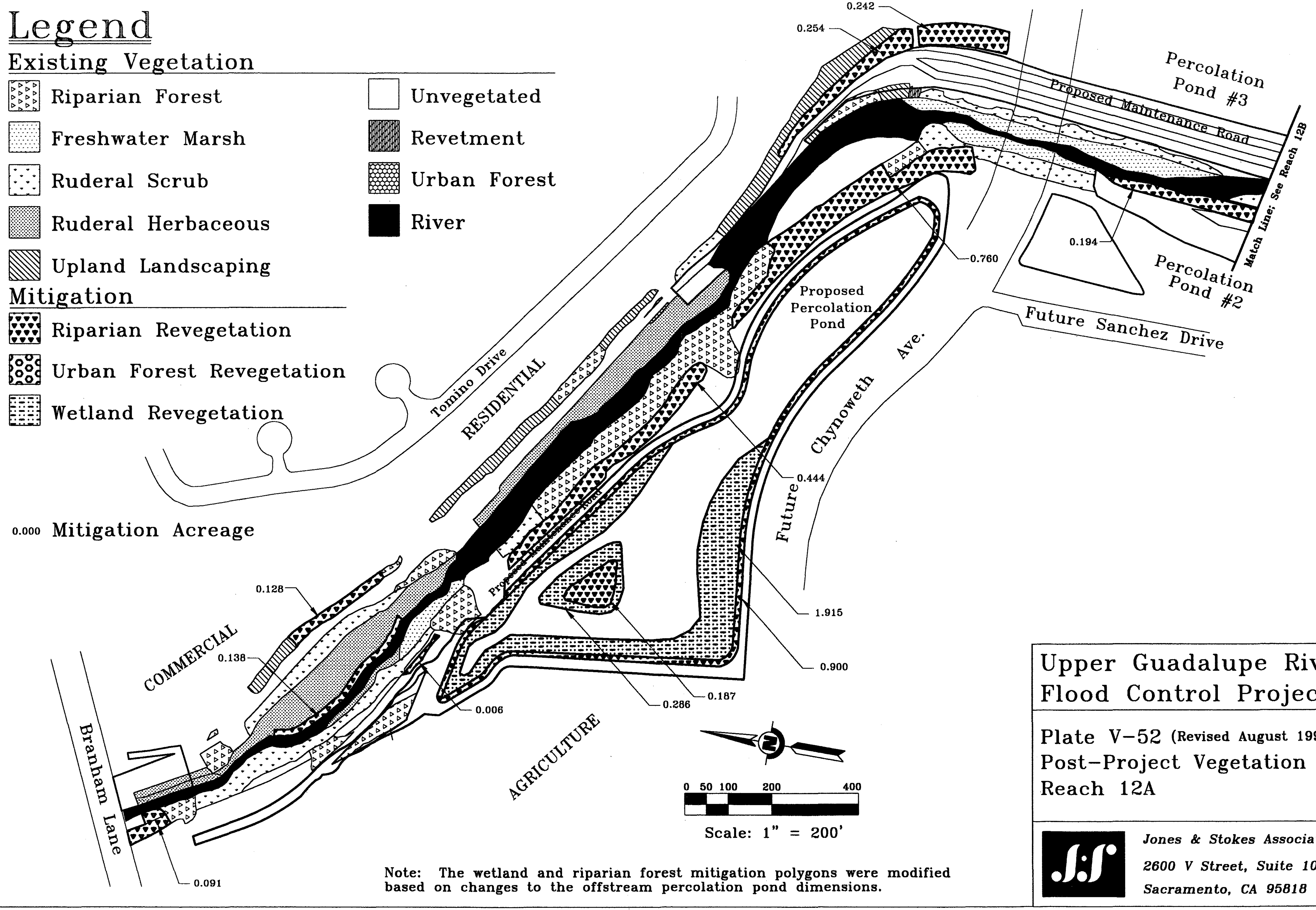


Upper Guadalupe River Flood Control Project

Plate V–51 (Revised August 1999)
Post–Project Vegetation in Reach 11B and 11C

Note: Riparian forest mitigation polygons revised to reflect moficiations to the flood control project.

Jones & Stokes Associates
2600 V Street, Suite 100
Sacramento, CA 95818



Note: The wetland and riparian forest mitigation polygons were modified based on changes to the offstream percolation pond dimensions.

Upper Guadalupe River Flood Control Project

Plate V–52 (Revised August 1999)
Post–Project Vegetation in Reach 12A

Jones & Stokes Associates
2600 V Street, Suite 100
Sacramento, CA 95818